

Public Service Announcement Campaign on The Microplastic Pollution of The
Tennessee River

By

Teagan Joy Blohm

A thesis presented to the Honors College of Middle Tennessee State University in partial
fulfillment of the requirements for graduation from the University Honors College

Middle Tennessee State University

August 2025

Thesis Committee:

Prof. Erin Anfinson, College of Art & Design, Faculty Director

Tricia Farwell, Honors College, Second Reader

Dr. Philip Phillips, Honors College Committee Chair

Public Service Announcement Campaign on The Microplastic Pollution of The

Tennessee River

By Teagan Joy Blohm

APPROVED:

Prof. Erin Anfinson, Thesis Director

Professor, Art and Design

Dr. Philip Phillips, Thesis Committee Chair

Associate Dean, University Honors College

ABSTRACT

This public service announcement campaign aims to spread awareness of the massive microplastic pollution in the Tennessee River and educate individuals on how they can take action to correct this issue. Additionally, the campaign materials explain what microplastics are, how they are made, their size, and their effects on the body and ecosystems. To make this daunting issue more digestible, I divided it into three steps: vote for leaders who will take legislative action, get involved in local clean-up efforts, and choose sustainability over convenience. I also promoted mindfulness of how one's actions affect the environment. I made a brand for this campaign, Tennessee River Protectors. I designed a logo, brochure, poster series, website, stickers, social media page, billboard, and mug decals to deliver this message. I conducted a public display to further my campaign's reach and handed out stickers and brochures to many people.

TABLE OF CONTENTS

Abstract.....	i
Introduction.....	1
Thesis statement.....	2
Microplastics.....	3
Public Service Announcement Effectiveness.....	7
Methodology.....	11
Conclusion.....	43
Works Cited.....	45

LIST OF FIGURES

Figure 1.....11

Figure 2.....13

Figure 3.....14

Figure 4.....15

Figure 5.....16

Figure 618

Figure 7.....20

Figure 8.....21

Figure 9.....22

Figure 10.....23

Figure 11.....26

Figure 12.....27

Figure 13.....28

Figure 14.....29

Figure 15.....30

Figure 16.....31

Figure 17.....32

Figure 18.....33

Figure 19.....34

Figure 2035

Figure 21.....36

Figure 22.....	37
Figure 23.....	38
Figure 24.....	40
Figure 25.....	41

Introduction

As a child, my parents ensured that my younger brother and I had plenty of time outside. Our dad often took us hiking in a ravine behind our house and on many camping trips. We would camp on the beach, in the forest, and even take a long weekend to camp in the middle of the Mojave Desert. My mom took us to every park in the city of Rancho, California, and we frequented multiple nature reserves where we would bird watch and look at all the critters in the wildlife centers. At an early age, I fell in love with the outdoors and any animal that called it home, and I became a voracious nature documentary consumer. At 12, my love of nature hit a new horizon when my family packed everything we owned and drove across the country to Tennessee so my mom could finish her doctorate. I marveled at all the different landscapes we traversed and immediately fell in love with the one we settled in. Maybe a bit more than that of California.

This love of nature has not only fueled my passion for environmental conservation but anger at a world that seemed as if very few people cared about its mass destruction. Most documentaries I readily soaked in had one thing in common: humanity's negative impact. However, I felt like there was nothing effective I could do. Pollution is a massive issue intertwined with hundreds of aspects of human life and function. I feel that it is our responsibility as the dominant species of this planet to protect nature, not pillage it to feed the greedy and careless. The more I dug into the sources and causes of plastic pollution, the more I saw the expanding threat of microplastics. I also found ways to combat it. Yet I faced frustration that not enough people understood or

paid attention to what was happening out of what seemed to be boredom or uninterest in the topic. But then I found graphic design.

In high school, I took a four-year focus class for graphic design and photography known as the Academy of Media Arts and Technology or AMAT. This class allowed me to integrate my passion for art and the need for a stable career. Through pursuing graphic design in college with plans to go into advertising, I realized I could use it as a tool to amplify my voice and spur environmental change. In a literature class, I was handed an alarming article on the microplastic pollution of The Tennessee River. Once I decided to pursue an honors diploma and was granted the opportunity to do a creative thesis, I quickly and excitedly sewed these factors together. Thus, my topic for this campaign was born.

With this public service announcement campaign and thesis, I hope to bring about at least some of the change I have yearned to see for years. My goal is to break down the large and daunting issue of microplastic pollution, particularly that of The Tennessee River, into more manageable, digestible, and precise actions, which is the essence of graphic design. Moreover, I want to inspire change and show people they can make a difference.

Thesis

With this public service announcement, I hope to bring awareness to the issue of microplastic pollution in the Tennessee River and to inspire people to participate and take action in the fight against the destruction of one of Tennessee's greatest landmarks. I aim to show people that there is something they can do to make a change.

Microplastics

Microplastics have infiltrated virtually the whole planet. Microplastics have been found on the beaches of every continent, in deep-sea sediments, arctic ice cores, and mid-ocean gyres (Agamuthu). Microplastics have even made it into the air we breathe, traveling globally on the wind (Brahney, et al.). Microplastics are heavily prevalent in organisms as well. 60% of fish species contain microplastics, which, among many other sources, have delivered them into human blood and tissue. (Leslie et al., Microplastics Facts & Figures 1).

While microplastic's effects on the human body are not fully known, in aquatic life, it has been observed to cause disruptions in reproductive systems, inflammation, metabolic disorders, organ damage, hindered growth, and death (Ya et al.). Further, microplastics leach harmful chemicals, namely polychlorinated biphenyls (PCBs), PBDEs, and perfluorooctanoic acid (PFOA), into their surroundings (Agamuthu). These chemicals harm aquatic life and alter soil ecology, allowing these chemicals to potentially contaminate food sources for both wildlife and humans (Ya et al.).

Microplastics are classified as primary or secondary based on how they are produced. Primary microplastics are intentionally manufactured, such as exfoliant beads in cosmetics. Secondary microplastics result from degrading plastic continuously being torn apart by a plethora of environmental, chemical, or mechanical means. Once a piece of plastic is 5 millimeters, it is considered microplastic, and these pieces have been observed to become as small as 10 nanometers (Agamuthu). To put the scale into perspective, human DNA is 2.5 nanometers in diameter, and an inch contains 25.4 million nanometers (Size of The Nanoscale).

According to Dr. Adreas Fath and the findings of the TennSwim project, the level of microplastic pollution in the Tennessee River is 8,000% higher than that of the Rhine River. The famous Rhine River in Germany is a little over one hundred miles longer than The Tennessee River, making the concentration of microplastics even more alarming. More so, Dr. Fath found that the level of microplastics on the surface of The Tennessee River was 80% higher than China's Yangtze River. The Yangtze delivers 55% of the Earth's river-borne microplastics to the ocean. Furthermore, in 2010, it was found that 35% of the miles of The Tennessee River tested were impaired. In a report for 2020, an alarming 55.4% of the miles tested were impaired (McNabb and Swenson).

The watersheds that supply The Tennessee River have scored highest in the region for "biodiversity, endemism, and imperilment," but only 1.5% of these are protected (Elkins et al.). The Tennessee River provides a habitat for a multitude of endangered wildlife species; Tennessee River Keepers have found that "30 mussels have been extirpated from The Tennessee River system, of which about a third are considered to be globally extinct." Additionally, they have identified many endangered plants and animals, such as the Alabama cavefish, Green Pitcher Plant, Anthony's Riversnail, Gray/Indiana Bat, and many more.

The river supports more than wildlife; 5.2 million people receive their drinking water from the Tennessee River and its tributaries (Water For Everyone). While proper filtration removes microplastics, 81% of the globe's tap water is contaminated with microplastics (Kosuth et al.). Based on this information, chances are high that many Tennesseans have drunk contaminated water from The Tennessee River and have remained none the wiser.

To impact the river's health, one must determine how microplastics enter the system. Specific statements of quantities and sources are difficult to claim due to the lack of data on microplastic levels in The Tennessee River's main tributaries and the difficult-to-measure nature of illegal dumping. Regardless, general sources are well known. Littering, landfill flyaways, agricultural tarps, tire wear particles, road or building paint flakes, and microfibers from washing clothes are all sources of primary and secondary microplastics in our rivers (Microplastics Facts & Figures 1). These contaminants reach rivers through wind, storm runoff, and dumping waste in or near rivers and their tributaries.

It is equally important to identify who contributes the most to plastic usage. The food service industry is a significant contributor. Plastic is easily sterilized, lightweight, durable, and cheap, making for an excellent material for packaging foods. I have witnessed firsthand the hundreds of pounds of single-use plastics used and discarded when working for multiple food service and retail companies. Over a third of plastic production is for short-term packaging (Larsen and Venkova).

Solutions to this issue are often complex. Generally, the blame for the massive pollution of our globe and The Tennessee River is not on the individual but on large corporations, legislation, and poorly allocated funds. However, it requires the action and support of the individual for widespread change. The government has overlooked much of the damage done and the darkening environmental future of our rivers and planet; thus, it is up to the people to demand change and elect officials who aren't swayed by lobbying from the large corporations at fault for the environmental crisis.

The most effective way to reduce microplastic pollution of The Tennessee River and all of Earth's waterways is to stop plastic usage entirely and launch massive filtration efforts globally. But, of course, that is not realistic. Nevertheless, many things can still be done to combat this issue. An essential thing an individual can do is vote for leaders who will take action to better our river systems and support legislation that will hold companies accountable for their pollution levels.

As the United States Environmental Protection Agency presented,

“Section 319 of the Clean Water Act (CWA), which was established in 1987 and establishes a grant program for states, territories, and Tribes to implement their approved NPS management programs. Since 2009, funded work through § 319 has collectively restored over 12,500 miles of rivers and streams and over 230,000 acres of lakes and ponds, with documented water quality improvements in 1,080 waterbodies . . .” (Addressing Nonpoint Source Pollution through EPA's National Nonpoint Source Program Webcast).”

Furthermore, protest is another powerful tool in the people's hands. Participating in peaceful protests against rolling back environmental legislation and implementing legislation that favors plastic manufacturers can sway many legislators. Also, there are a multitude of petitions that push ecological protection.

Yet another thing that can be done is to personally limit single-use plastics, avoid plastic bags when shopping, recycle, and choose sustainable options over convenience. Being mindful of how personal choices affect the environment and doing what is sustainable is the first step to changing one's behavior to live more environmentally friendly. An everyday example of choosing sustainability over convenience is instead of using a paper towel to clean up a spill, using a wash rag, or replacing a plastic fork in a lunch box with a metal one. While these actions are small and seem insignificant, they are steps toward change. When a large group of people does something, small actions

become great. Small steps also help break down the daunting and overwhelming nature of a problem so large and complex as microplastic pollution, a significant function of this PSA campaign.

Public Service Announcement Effectiveness

The target audience of this campaign will be young to middle-aged voting adults of all races and economic standing. If the goal is mass change, the target audience should be broad. *Statista* shows that the ages 18 to 35 are the largest age group in our country. Additionally, that age range will be the bulk of those who will view the posters, cards, etc, since these elements will primarily be exhibited on Middle Tennessee State University's campus. Supporting my audience choice, GlobeScan found that people under 30 are likelier to change their purchasing habits toward environment-friendly products. Also, a college campus has a high density of cognitively proficient, open-minded, and analytical people. One's ability to process the message leads to higher chances of participation and behavioral change (Bater and Caldini 530).

When it comes to a successful campaign, one should first understand the audience's attitudes and behaviors to develop effective campaign strategies (Bater and Caldini 528). In pro-environmental PSAs, particularly when it comes to microplastics, it can be difficult to change behavior because it is unlikely the individual will see a noticeable change in their day-to-day life. They may gain the confidence that they are part of a greater purpose and helping the planet, but microplastics are, well, micro. The environmental changes seen by the naked eye would likely be an increase in wildlife populations and less litter. Still, a study by *The Nature of Americans* showed that more than half of adults spend fewer than 5 hours outside *weekly*. This creates a challenge

because, without immediate gratification, many people will not put a major effort into change, mainly when the situation already seems hopeless.

Additionally, 25% of people in 2019 to 33.3% in 2023 feel they cannot positively impact the environment. Still, most people think they are already doing their best (GlobeScan 4). Rather than taking this as discouragement, I see it as supportive of the importance and need for this and other pro-environmental PSAs.

There are two main routes of persuasion: the central route and the peripheral route. The route that will yield the best results depends on the audience's level of knowledge about the subject matter. The central route consists of persuading someone through the logic or merits of the subject matter, much like the persuasion mode *logos*. In contrast, the peripheral route persuades through something unrelated to the content, often an *ethos* or *pathos* mode (Cacioppo and Petty 4). For example, convincing someone familiar with cars to buy a specific one is most effective by utilizing *logos* and showcasing its horsepower or engine model. For someone unfamiliar with the inner workings of vehicles, it will be more effective to go through the *ethos* or *pathos* route and have a celebrity endorsement or a pleasing aesthetic to persuade them to buy it. Using the data above and the education level of my audience, college students, I will primarily take the central route as the majority will have at least surface-level knowledge of pollution. While predominantly using peripheral persuasion will be less effective in this case, it is still helpful to include elements from that route, such as pleasing aesthetics and tangible items, to spark initial interest, leading to more interaction with the material and central information.

GlobeScan shows that most people believe that recycling, at 68%; buying less plastic, at 60%; and buying sustainable products, at 58%, will impact the environment the most. My campaign will still support and encourage recycling and buying less plastic but will not focus on it using this data and the saturation of recycling promotion.

As for strategies to garner change and interaction, I will utilize multiple pathos and logos appeals. One pathos aspect I will be using is one's desire for health, highlighted by the fact that microplastics have contaminated our tap water, which has a good chance of coming from The Tennessee River. The fear created by the unclear effects on the human body and the chemicals that are known to be harmful is primal. However, I recognize that it has a delicate nature. I do not want to step into fear-mongering territory because not only is it ethically questionable, but it will not create a desire for change healthily and constructively. I will tap into the urge for self-preservation by highlighting the truth of the situation: microplastics have made it into our food and water, but there is a solution.

A similar pathos appeal is that microplastic pollution is harming the environment and many species that call The Tennessee River home. It has been found that "59% of people under 30 agree that they feel guilty about their negative environmental impact" (GlobeScan 4). In 2019, 62% of people surveyed said they wanted to reduce their environmental impact; in 2023, that percentage went up to 71% (GlobeScan 5, 13). Playing off these emotions and willingness can better draw in, inspire, and impact the audience, which makes them more likely to act and change their behaviors.

Additionally, a logos appeal I have presented is monetary. It has been found that 49% of people feel that the prices of sustainable products are holding them back from

more healthy and sustainable lifestyles (GlobeScan 8). This means showing how people can save money by being more sustainable, which may increase interaction and behavior adjustments. Returning to the previous example concerning paper towels versus wash rags, one can save money using wash rags rather than paper towels while being more sustainable. Connecting back to the characteristics of my audience, I noticed that it consisted mainly of young adults who are students. Individuals in this group tend to have very restrictive financial situations, which makes them more eager to conserve funds.

My final appeal was a mix of logos and pathos about large corporations and legislators not taking accountability. Like my aforementioned statement, poor waste management legislation and large corporations churning out single-use plastics are the leading causes of the absurd amount of plastic pollution in The Tennessee River and the globe. Young adults are becoming increasingly disillusioned with our government, particularly towards our economy and capitalism in general. Felix Salmon states, "58% of Americans ages 18-34 reacted positively to the word capitalism. That's plunged to 49% [in 2021]". Utilizing this information, I can ascertain that supporting change governmentally will appeal to my audience.

A crucial point in any advertisement, PSA, or movement is a call to action. A statement that tells the viewer what to do with the information they have just received. While a call to action is on almost every element of my campaign, they vary depending on the appeal I displayed in that particular piece. Generally, I called the viewer to be more mindful of their actions, use their vote in local and state elections, protest peacefully, and support those who have more power to aid in the reduction of microplastics and restoration of The Tennessee River.

Methodology:

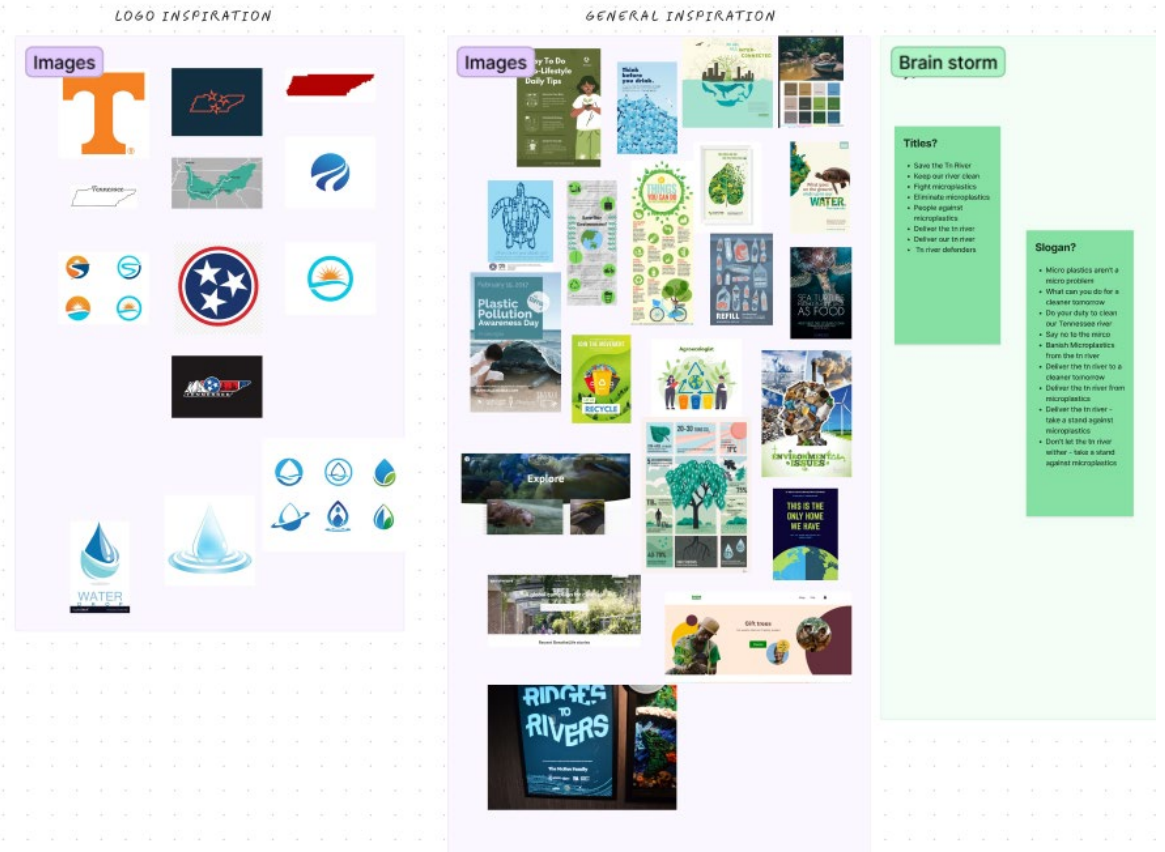


Figure 1 - Inspiration Board

The first step of my design process is to gather inspiration. I searched the web for designs similar to the subject, theme, and aesthetic of the product I was aiming for. I also compiled the images and potential color palettes onto a mood board I referenced throughout creating my project. I collected inspiration and references for both my campaign and logos, rack cards, etc. The inspiration I gained from these images helped me to stay motivated.

Additionally, this helped me to establish a consistent style that links each component of the overall project to each other. I utilized Figma, a website-building site, to make my mood board because I prefer how their templates help organize my ideas and

inspiration. I created designs that are primarily illustration but merge with photography as well.

With both inspiration and a bank of technical information, I determined the name and slogan for this project. I did this by, as exhibited in Figure 1, jotting down any name for the campaign that popped into my head without worrying about how creative or clever it was. This helps me visualize my ideas, organize them, and boil them down into an exciting and effective title or slogan. After coming up with as many as possible and refining some of my ideas, I consulted my peers and friends for critique, opinions, or suggestions. With any graphic design work, you must be in touch with what your target audience will find interesting or eye-catching. For this campaign, my slogan is “Don’t let our river wither,” and the title is “Tennessee River Protectors.”

Header 1 Type Study

OSTRICH SANS TN RIVER DEFENDERS	BRUMERY TN RIVER DEFENDERS	Fairplex TN River Defenders
BEBAS TN RIVER DEFENDERS	Classica 3 TN River Defenders	Elido TN River Defenders
Interstate Tn River Defenders	COMICY TN RIVER DEFENDERS	Interstate Mono TN River Defenders
Effra Tn River Defenders	HELV CHILDREN TN RIVER DEFENDERS	Interstate Mono TN River Defenders
Rabbid Highway SignII Tn River Defenders	MASKER AREA TN RIVER DEFENDERS	Madone STD TN River Defenders
ANVYL TN RIVER DEFENDERS	NEPOBOY TN RIVER DEFENDERS	Brevia TN River Defenders
APPO PAINT TN RIVER DEFENDERS		

Body Copy Type Study

Bilo From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Bitter From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Lato From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.
JJC Gilliard From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Crimson Text From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Montserrat From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.
Saban From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Domine From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Roboto From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.
Lora From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Alegreya From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Source Sans From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.
Merriwether From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Gill Sans From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Brevia From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.
Noto Serif From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Future From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.	Obvia From deep-sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms - primary and secondary. Primary Microplastics are intentionally manufactured for items such as exfoliant beads in cosmetics.

Subheader Type Study

Aero Matics Don't Let Our River Wither	Folks Don't Let Our River Wither	Recharge Don't Let Our River Wither
Agenor Neue Don't Let Our River Wither	Geo Sans light Don't Let Our River Wither	Odin Rounded Dont Let Our River Wither
Alte Haas Grotesk Don't Let Our River Wither	Geometry Soft Pro Don't Let Our River Wither	Ronyiswadi 14 Dont Let Our River Wither
Arial Narrow 7 Don't Let Our River Wither	INSANIBURGER DON'T LET OUR RIVER WITHER	SUBSCRIBER DONT LET OUR RIVER WITHER
BUILT TITLING DON'T LET OUR RIVER WITHER	Louis George Cafe Dont Let Our River Wither	Wood Dragon Dont Let Our River Wither
CORPOREA DONT LET OUR RIVER WITHER	Mustica Pro Don't Let Our River Wither	
Excelsior Sans Don't Let Our River Wither		

Figure 2 - Type studies

I performed type studies in Adobe InDesign because I prefer how it handles text to other programs. My chosen fonts had to be legible, engaging, and accessible. I consulted peers and mentors when I made the final selections. I indicated what fonts I decided on with a star.

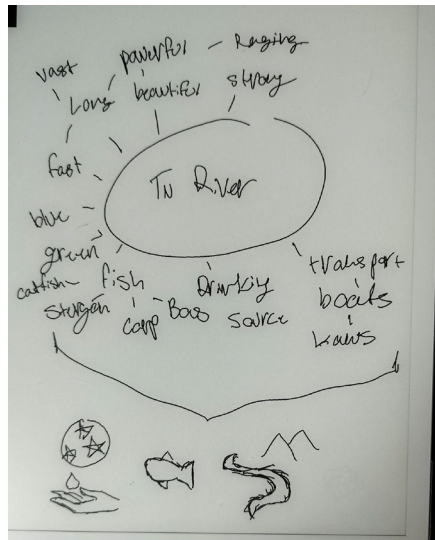


Figure 3 - logo brainstorm

Like the title and slogan, I brainstormed words related to The Tennessee River. I boiled these keywords down to potential icons for the logo.

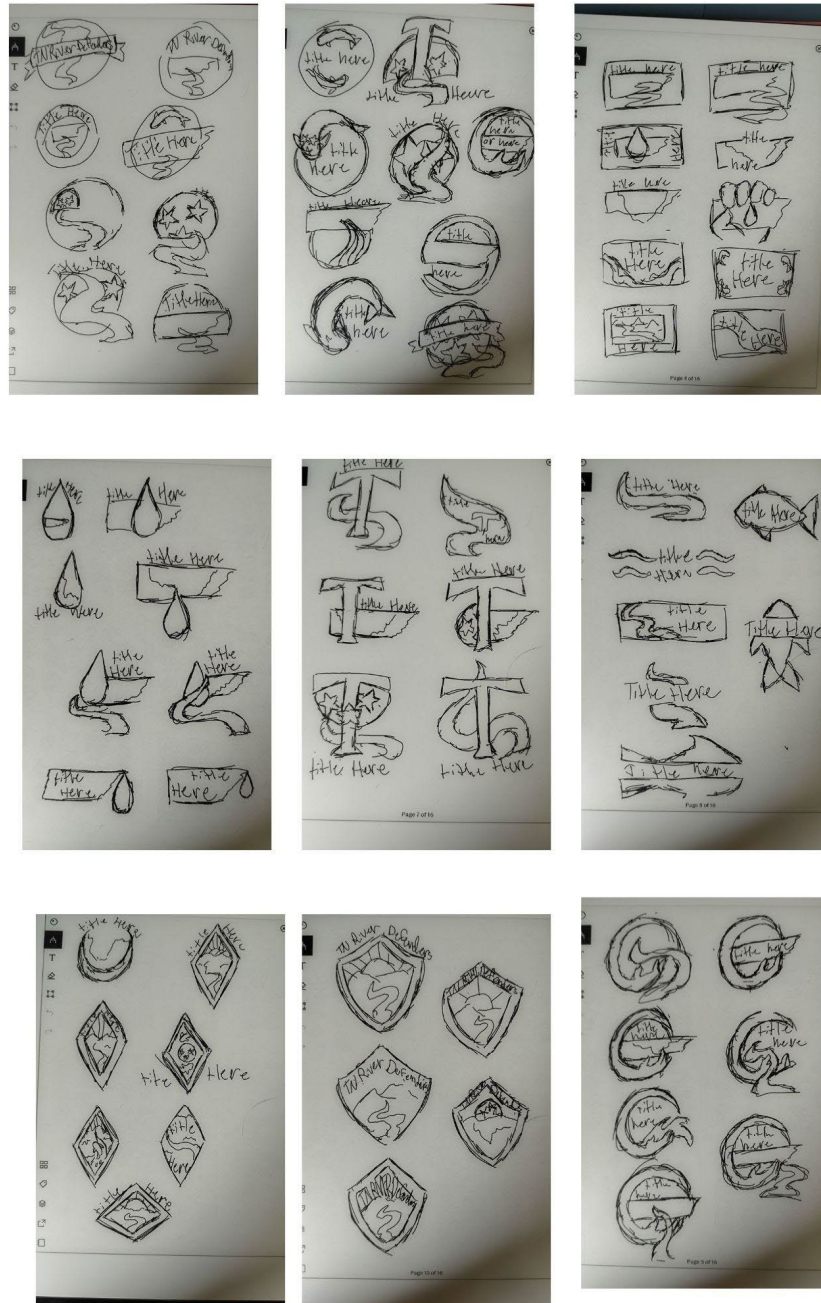


Figure 4 - Logo sketches

Using my inspirational images to spark ideas and motivate me, I gave myself simple shapes and sketched out anything that came to mind. I did not worry about making them look complete at this stage. After sketching everything that came to mind, I went to my peers and mentors for critique to help me choose which to develop further.

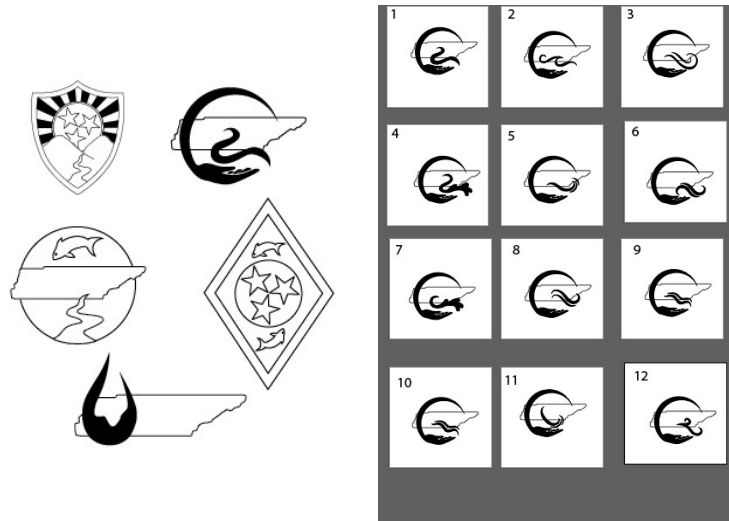


Figure 5 - Logo iterations and final

Once I narrowed my designs down, I digitized them in Adobe Illustrator. I made iterations until I was left with a unique, successful logo in either black or white and included both type and image.

I used the same process as explained for the rack card, pamphlet, mock Instagram page, billboard display, stickers, T-shirts, pins, mugs, website banners, and mobile website. However, the number of sketches and content creations lessened as I developed imagery used throughout the materials.



Figure 6 - Sticker progress and finals

My aim with the design of my stickers was to encourage action, catch the eye, and garner interaction with my exhibition. I have observed the popularity of stickers among my peers and derived that many people would be interested in obtaining one of my stickers. Additionally, as my research on behavior change found, material items such as these increase the likelihood of the behavior above change. Overall, I am happy with the designs and confident they will be well-favored in my exhibition. Through Ecoenclose, the stickers are printed on recycled paper.



Figure 7 – Poster progress

MICROPLASTICS



It's what's for dinner!

Microplastic pollution in our waterways makes it into our food and drinking water. Fish consume plastic particles that have infiltrated the planet's water, ending up on our plates. It's likely microplastics from The Tennessee River have ended up in your cup or main course.



I'm made of 100% recycled paper!

See how you can help



Figure 8 – Poster 1

**DON'T
LET OUR
RIVER WHITHER**

Microplastics tear apart the organs of small animals and cause chemicals to leach into their systems. These pollutants not only leave less food for others, but they collect in predators' bodies. This pollution is greatly damaging The Tennessee River's ecosystem and humans are both the cause and the solution.

TN RIVER PROTECTORS

See how you can help

I'm made of 100% recycled paper!

Figure 9 – Poster 2



Figure 10 - Poster 3

For my posters, I created three to cover the three aspects that I have determined, through the research above, to be most successful at changing the behavior of my campaign's message. After many sketches, with feedback from others, I picked a handful of designs to digitize and refine further. My posters went smoothly, and I met my quality, message, and craft expectations. For my exhibition and defense, I printed and trimmed a minimum of five copies per design on recycled paper, each including the campaign's logo and a QR code to the website.

The body text included in the first poster reads,

“Microplastic pollution in our waterways makes it into both our food and drinking water. Fish consume plastic particles that have infiltrated the planet's water, which ends up on our plates. It's likely microplastics from The Tennessee River have ended up in your cup or main course.”

For this poster, I took a picture of a salmon filet, a dinner plate with utensils, and a cup of water with pieces of plastic in it. I then photoshopped the images together. Additionally, I cut out some of the plastic pieces from the picture of the cup and scattered them on top of the fish. My imagery aims to show that plastic is in the water and fish that ends up on your dinner table. The hook of “Microplastics. It's what's for dinner!” is a lightly sarcastic play on the famous 1990s commercial whose slogan was “Beef. It's what's for dinner”. While most of my target audience may not have been born yet or were very little when this commercial aired, it is still widely known. Further, as I have observed among my peers, sarcasm is a significant factor in their humor. This poster is meant to portray a concerning issue with comedic relief through pathos since many people respond to humor with openness and intrigue (Cacioppo et al.).

The body text for the second poster reads,

“Microplastics tear apart the organs of small animals and cause chemicals to leach into their systems. These pollutants leave less food for others and collect in predators’ bodies. This pollution is greatly damaging The Tennessee River’s ecosystem, and humans are both the cause and the solution.”

Like the first poster, pathos is the avenue of persuasion in this post. I utilized imagery of a protective hand, as seen in the logo for the campaign, holding back plastics from the fish and otter. The imagery and body text aimed to motivate the viewer through their pity for the animals caught up in the destruction microplastics are wreaking.

The body text for the third and final poster reads,

“The main contributors to microplastic pollution are corporations that manufacture plastics and their poor waste management. Our government often overlooks such issues.”

I made this ethos-oriented poster look like a protest to create a sense of power, the power we have to stand up against the neglect politicians and other powerful people have perpetuated when it comes to the massive waste companies allow.

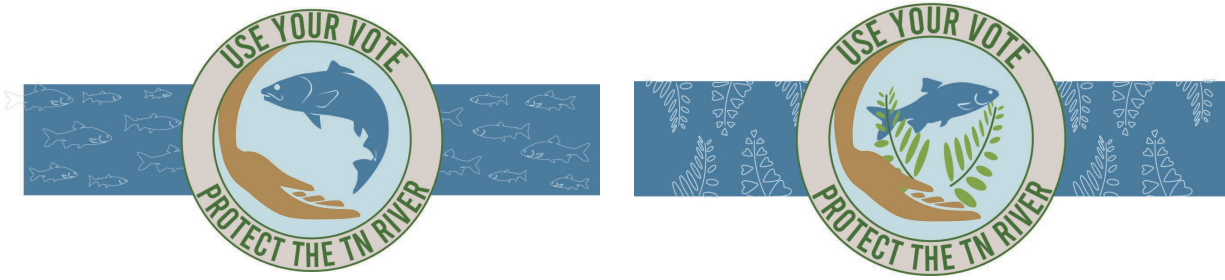


Figure 11 - Mug finals

To create the mug designs, I pulled them from my sticker sketching. I utilized vectors from my stickers to keep the designs consistent but tweaked the designs to add interest and variety. I mocked up these designs in Photoshop with an accessible template.

As for the written content for my more information-oriented materials, I condensed and paraphrased the information I displayed in the introduction of my thesis. I delivered my points in an easy-to-digest manner with clear directives regarding what actions the reader can take to reduce microplastic pollution in The Tennessee River.

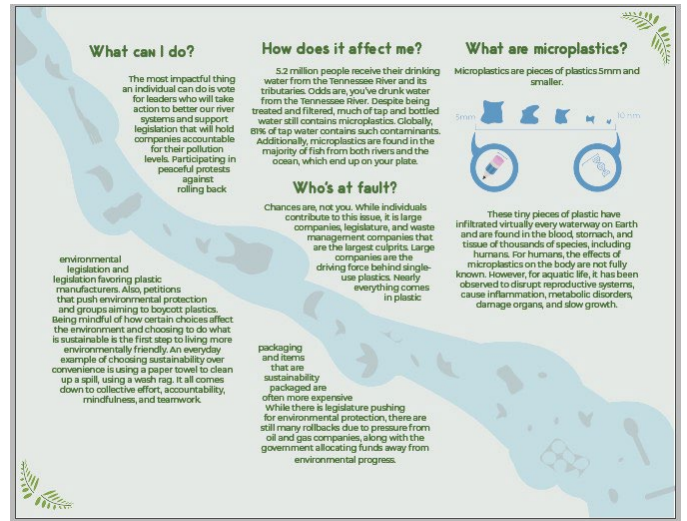
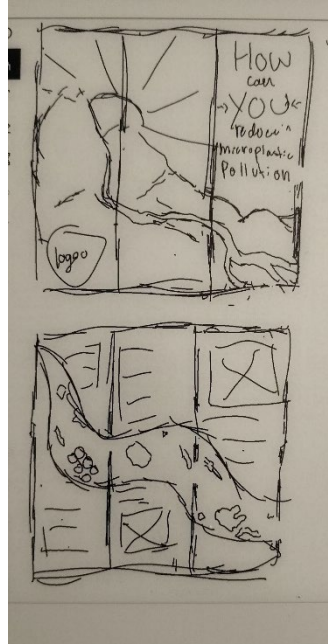


Figure 12 – Brochure Progress



Figure 13 - Brochure outside



Figure 14 – Brochure inside

In creating the brochure, I wanted to go for something visually interesting without sacrificing the readability and flow of the text. My first draft did not capture what I was aiming for. The text did not catch the eye on the brochure's cover, and its hierarchy needed to be corrected. The text had to be broken up oddly for the inside to accommodate the polluted river graphic. Overlaying the text with the river made it even more awkward to read. I did, however, like the background of the cover. Going back to my sketches, I started over and based it on a different sketch. My final is easier to read, has a better hierarchy, and has a more eye-catching cover while including the aspects from the first that I deemed successful.

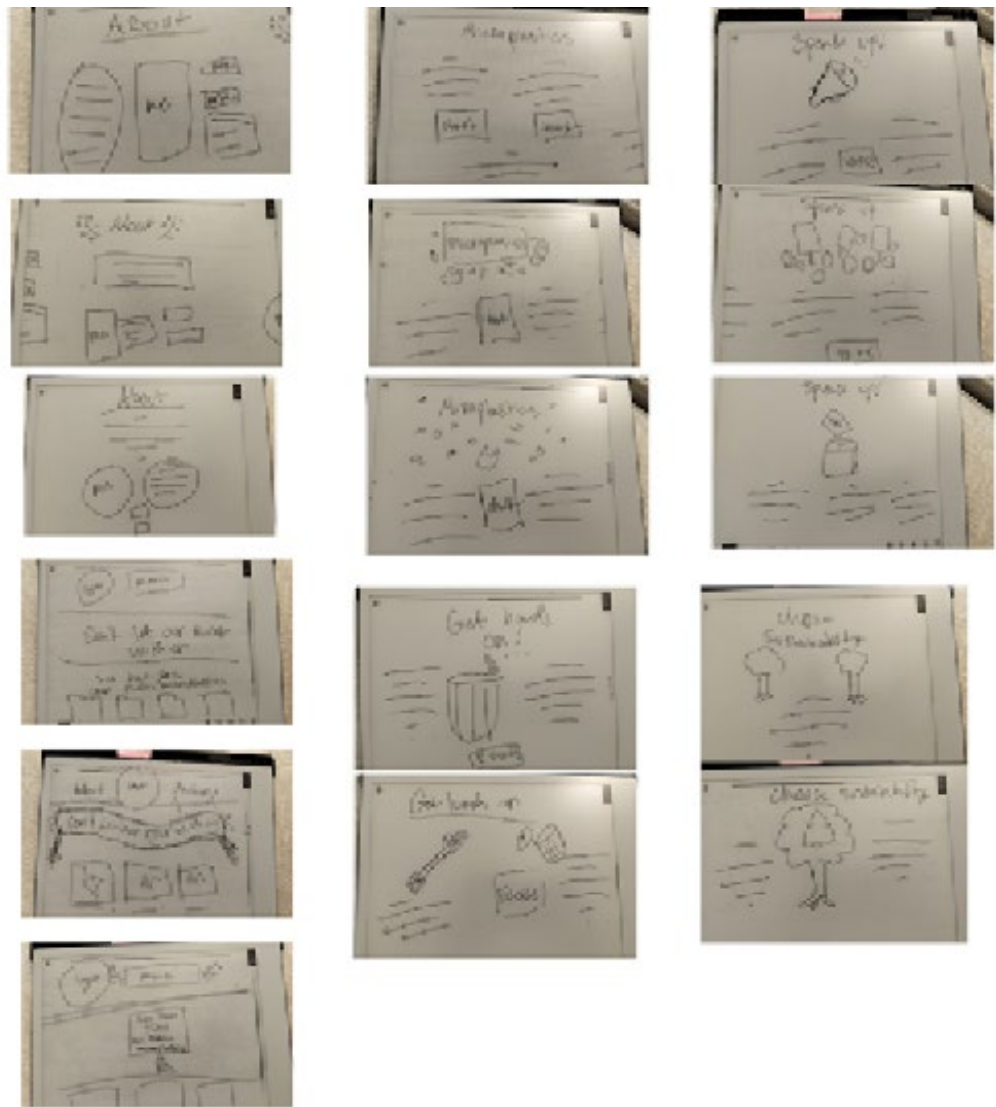


Figure 15 – Website sketches

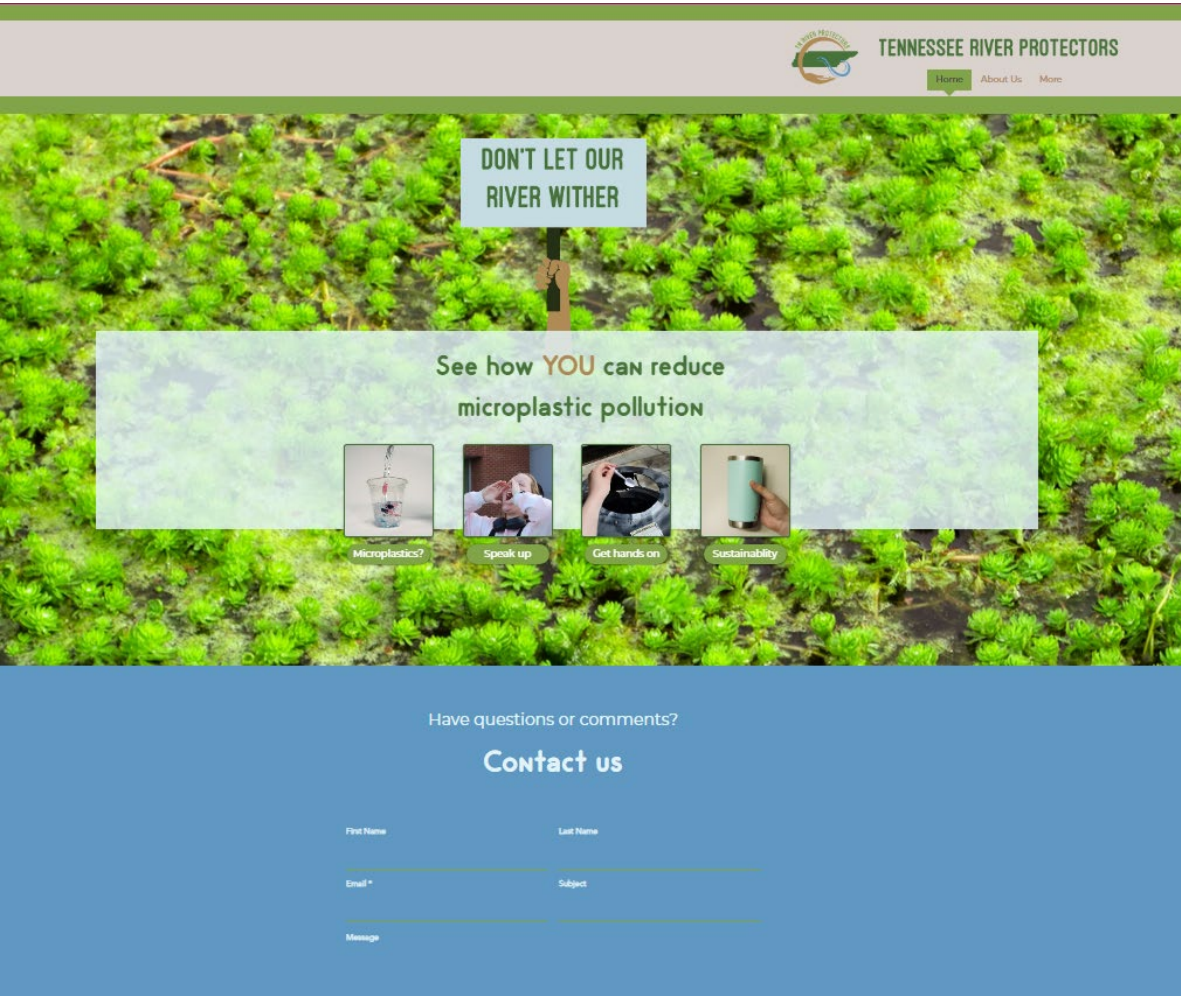


Figure 16 – Home page



ABOUT US



The Tennessee River Protectors hope to bring awareness to the issue of microplastic pollution in the Tennessee River and inspire people to participate and take action in the fight against the destruction of one of Tennessee's greatest landmarks. We aim to show people that there is something they can do to make a change in the face of a very daunting issue.



Meet the creator

Jay Blahn



As a child, my parents made sure that I and my younger brother got plenty of time outside. Our dad often took us hiking in a river behind our house and on many occasions took the annual camps on the beach, in the forest, and even took a long weekend to camp in the middle of the Mojave Desert. My mom took us to every park in the city of Rancho California, and we frequented multiple nature reserves where we would feed animals and look at all the animals in the wildlife centers. At an early age, I fell in love with the outdoors and any animal that called it home.

At 12, my love of nature hit a whole new horizon when my family packed up everything we owned and drove across the country to Tennessee so my mom could finish her doctorate. I marveled at all the different landscapes we traversed and immediately fell in love with the one we settled in. Despite a bit more than that of California.

It is this love of nature that has fueled my passion for environmental conservation. I aim to share the passion and bring about the change I have yearned to see. I believe that it is our responsibility as the dominant species on the planet to protect nature, not pillage it to feed the greedy and careless.

Subsequently, when I was given the opportunity to write and build a creative team, I gladly took it.

Portfolio

Full Thesis

Have questions or comments?

Contact us

First Name

Last Name

Email *

Subject

Figure 17 - About page

WHAT ARE MICROPLASTICS?

Microplastics are pieces of plastic that are 5mm and smaller.



Microplastics – they're everywhere

From deep sea sediments to your very own blood, microplastics are everywhere. Microplastics come in two forms: primary and secondary. Primary microplastics are created by manufacturing items such as exfoliant beads in cosmetics. Secondary microplastics are created by degrading plastic as it is torn apart continuously. Once a piece of plastic is five millimeters, it is considered a microplastic; these pieces can get as small as ten nanometers (Agarwathu).

These tiny pieces of plastic have infiltrated virtually every waterway on Earth and are found in the blood, stomach, and tissues of thousands of species, including humans. For humans, the effects of microplastics on the body are not fully known.

However, for aquatic life, it has been observed to disrupt reproductive systems, cause inflammation, metabolic disorders, damage organs, and slow growth (Ye et al.). Microplastics are in the food we eat, the water we drink, and even in the dust we inhale (Rahney, et al.).



How does this affect me?

5.2 million people receive their drinking water from the Tennessee River and its tributaries (Water for Everyone). Odds are, you've drunk water from the Tennessee River. Despite being treated and filtered, much of tap and bottled water still contains microplastics. Globally, 89% of tap water contains such contaminants (Kosuth et al.). Additionally, microplastics are found in the majority of fish from both rivers and the ocean, which end up on your plate and subsequently in various tissues throughout your body. Overall, the earth is our only home, and we must keep the planet healthy, or humanity will find itself dying along with the environment.

Who's at fault?

Chances are, you are not at fault for microplastic pollution. While individuals contribute to this issue, it is large companies, legislature, and waste management companies that are the largest culprits. Large companies are the driving force behind single-use plastics. Nearly everything comes in plastic packaging, and items that are sustainability packaged are often more expensive. While there is legislature in pushing for environmental

Figure 18 – Microplastics page

TOGETHER OUR VOICES ARE LOUDER

Using your vote, participating in peaceful protests, and signing petitions are some of the most powerful actions you can take to make a difference.



Vote to protect the TN river

Voting for candidates who will take action against pollution and microplastics is vital in the fight against pollution. Overall, those in our government have the most influence and power. The most realistic way to reduce the microplastic levels in The Tennessee River and pollution in general is through governmental action. However, it is the voters that give them such power.

Unfortunately, lobbying has choked the voices of the people and limited the power of their votes. Major plastics producers spend copious amounts of money to stilt the actions of those in the government. These companies do not want legislation that would cost them, after all, waste management is not free. Pushing against lobbying is another action you can take to reduce pollution in The Tennessee River and our country as a whole.

Use your voice

Protesting is another way we can use our voices to confront corporations and government officials about rampant microplastic pollution. Peaceful protest is a right guaranteed to us by the Constitution, a way to use our voices to bring about change.

Use your pen

Using your pen is one of the easiest things one can do to take action. One Google search can lead to a multitude of petitions to the government for action against microplastic pollution.

[Click her to register to vote!](#)

Have questions or comments?

Contact us

First Name	Last Name
Email *	Subject

Figure 19 – Speak Up page

BE A PART OF THE CLEAN UP CREW

Join clean-up efforts to reduce litter
that ends up in waterways.



Lend a helping hand

Joining local clean-up is an excellent way to help reduce microplastics. Litter being washed away by rain is one of the many sources of microplastics in the Tennessee River and global waterways. To participate, you can pick up litter around your neighborhood or join one of the many clean-up organizations.

Upcoming events

Figure 20 – Get Hands On page

BE MINDFUL BE SUSTAINABLE

Live your life as environmentally friendly as possible.



Mindfulness

The first step toward living an environmentally friendly life is being mindful of microplastic pollution and the impact your actions have. Keep the health of the environment, and in turn, your health, in mind when making short and long-term decisions.

Sustainable Living

Living sustainably means that you make lifestyle choices that do not support or utilize non-renewable materials and do not overuse resources. Realistically, purely sustainable living isn't feasible for many people. The use of plastic and un-renewable resources is unavoidable but can be moderated.

What can I do to live sustainably?

Choosing sustainability over convenience in your daily life is a small step you can take to improve your impact on the Tennessee River and the environment at large.

Some examples include packing a metal fork in your lunch rather than a plastic one, using washcloths in place of paper towels, or using glass containers rather than plastic.

Figure 21 – Sustainability page

The website for my campaign was created using Wix, which allows for easy construction of a personalized website. I used many elements from other materials for this campaign to stay consistent. I staged multiple photographs to represent the different topics covered and to act as a visual guide to what topic would be included on the page the buttons led to. The three main points of my campaign, speaking up, taking action, and being mindful, each has a dedicated page. Additionally, I added a page giving more in-depth information on microplastics and their effects, along with an about page that includes a personal introduction and links to my portfolio and published thesis. I constructed this website in both a desktop and mobile format.

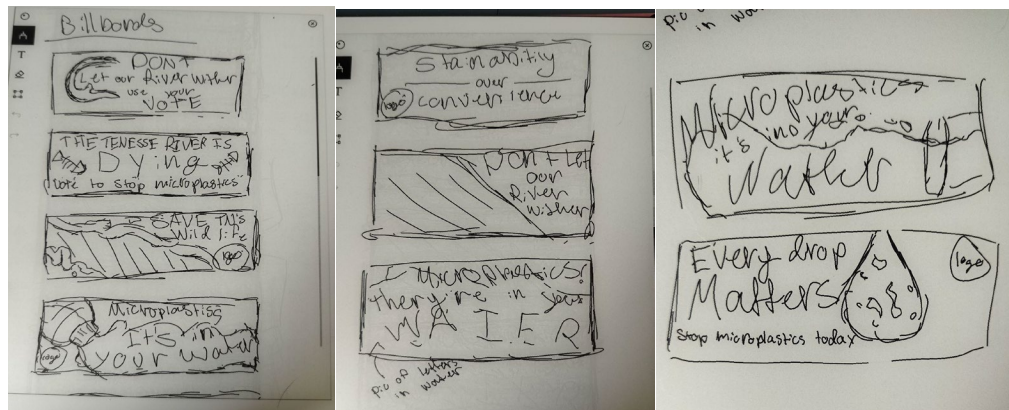
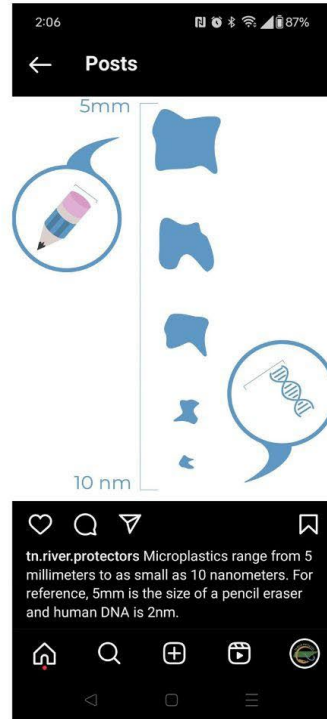
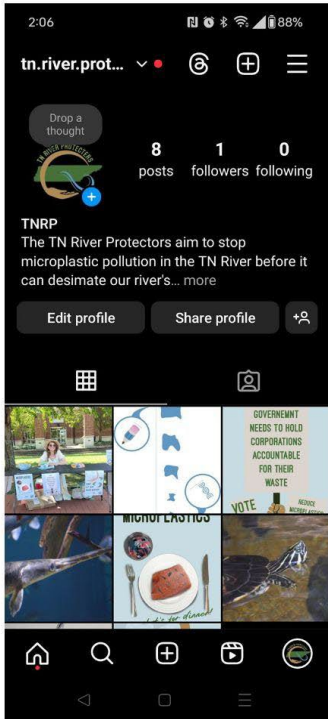


Figure 22 – Billboard sketches



Figure 23 - Billboard progress and finals

For billboards, it is vital to keep the information as concise as possible because they are most often viewed for only a few seconds by those driving on the freeway. As with most advertisements, I included a hook and contact information, such as the website address. While I wanted to include more photography, I had difficulty choosing only one sketch to develop further, so I designed three billboards. With the council of my director and peers, I chose one design. I took the photo of a River Cooter turtle, which is native to The Tennessee River, to help drive the reality of the issue. I used a free mockup template to mock up my final design.



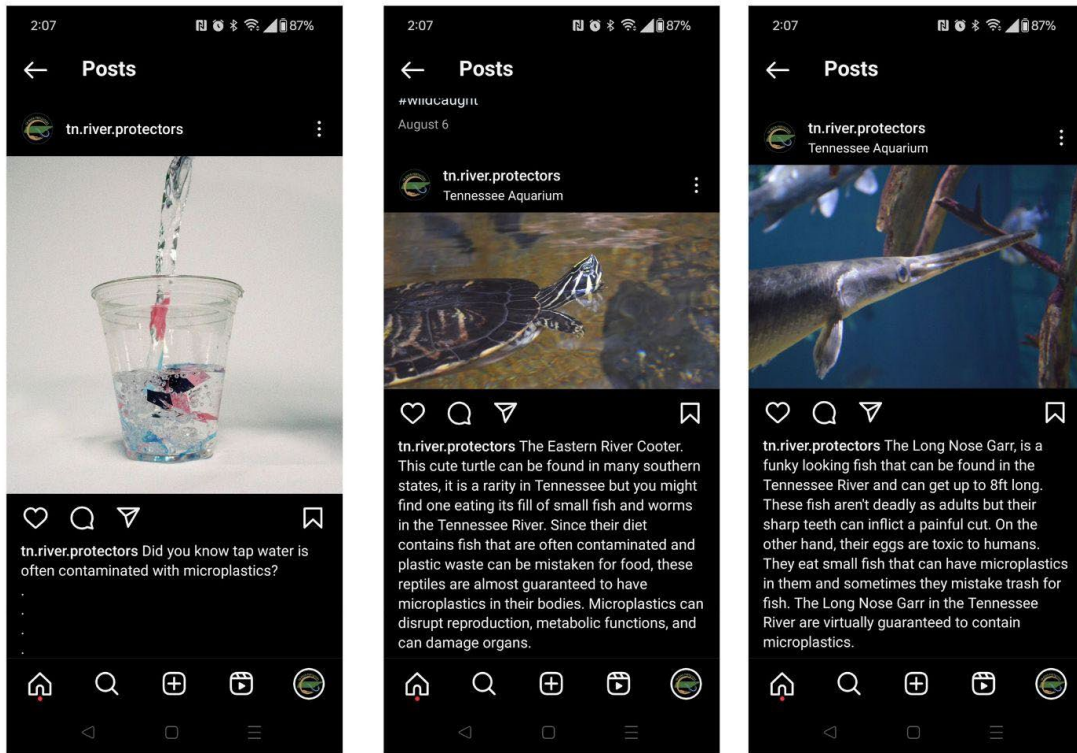


Figure 24 - Instagram

For the Instagram page, I aimed to briefly outline the messaging of my campaign and showcase the posters, my exhibition stand, and some species native to The Tennessee River. Each post includes a description and hashtags that connect each post to feeds of posts about similar things. These hashtags will also help more people to see the posts. Social media is an essential asset for any campaign as it is prevalent, especially with young people. Nowadays, social media can be one of the most effective tools for reaching many people.



Figure 25 - Public presentation 9/17/2024

For my exhibition, I set up, from 11:30 am to 2:30 pm, in front of the Student Union building and handed out stickers, brochures, and popsicles. I handed out approximately 95 brochures and a few hundred stickers. There was a good amount of interaction, and I had the opportunity to speak to many people about my message and their thoughts. Surprisingly, most of the people I talked to were aware of microplastics. However, many did not know the extent of the problem concerning the Tennessee River. Most interestingly, I met someone researching microorganisms that can digest and safely decompose plastic. Only one person I spoke to disagreed with some of my points, saying that it's not enough and that there's nothing besides radical change by politicians that will dent microplastic pollution, which is wildly unlikely to happen. At the end of our discussion, we agreed that effective change can start from the bottom up and that all hope is not lost. The hardest part of my exhibition was getting past my social anxiety. I find it difficult to talk to random people in specific settings. Despite this, once I had a few good interactions, I gained confidence and had no trouble calling people over to my stand.

Conclusion

Overall, I immensely enjoyed creating this campaign. It successfully brought awareness and guided people to be more mindful and act against microplastic pollution despite difficulties with time management, health, and technical hurdles. I have learned not only more about the science of microplastics through my research but also more about myself in the way that I formulate my work. Many projects that are for classes are guided and timed by the professor. This was my first project making my own deadlines and pacing. Due to this freedom and responsibility, I need to improve on judging how much time something will take to design while keeping up with other projects. As

mentioned, I struggled to tackle all the elements I planned to include in my campaign and ultimately had to cut out a few things.

Creating this campaign also highlighted some of my strengths. I have reinforced to myself that I am good at brainstorming and translating the ideas in my mind onto paper. Additionally, I handled the setbacks and changed plans much better than I expected. I get very anxious when plans change and find it difficult to let one plan go for another. Furthermore, this project has boosted my confidence in my work significantly. I often compare myself to others and fall into a lot of self-doubt. Many people complimented me on my work, saying that it looks professionally done. Apart from the opinions of others, I am also personally confident in the quality of this project, which is somewhat rare for a perfectionist like me.

Perhaps most of all, I feel accomplished, invigorated, and proud that I have taken action to help create the type of world that I want to live in. For a very long time, I felt like I could do nothing to change people's minds and help protect the environment that I love so dearly. I have reached something that I have dreamed of ever since I first found a passion for graphic design: the opportunity to use it to spread awareness and change minds about environmental issues.

As a final closing statement, I thank the Honors College for this opportunity, my thesis director for her guidance, and all that have helped me build myself up to reach this height and accomplish what I set my mind to.

WORKS CITED

“Addressing Nonpoint Source Pollution through EPA’s National Nonpoint Source Program

Webcast.” *United States Environmental Protection Agency*, 2023,

<https://www.epa.gov/w>

[atershedacademy/addressing-nonpoint-source-pollution-through-epas-national-nonpoint-source-program](https://www.epa.gov/watershedacademy/addressing-nonpoint-source-pollution-through-epas-national-nonpoint-source-program).

“Adults spend little time outside weekly.” *The Nature of Americans*, 2017,

[https://natureofameri](https://natureofamericans.org/)

[cans.org/finding/viz/adults-spend-little-time-outside-weekly](https://natureofamericans.org/finding/viz/adults-spend-little-time-outside-weekly).

“A Plastic Pandemic German Scientist’s Analysis Finds Staggering Levels of Microplastic

Pollution in Tennessee River,” *Tennessee Aquarium*, 18 Oct. 2018,

[https://tnaqua.org/ne](https://tnaqua.org/newsroom/a-plastic-pandemic-german-scientists-analysis-finds-staggering-levels-of-microplastic-pollution-in-tennessee-river/)

[wsroom/a-plastic-pandemic-german-scientists-analysis-finds-staggering-levels-of-microplastic-pollution-in-tennessee-river/](https://tnaqua.org/newsroom/a-plastic-pandemic-german-scientists-analysis-finds-staggering-levels-of-microplastic-pollution-in-tennessee-river/).

Agamuthu, P. "Marine Debris, Plastics, Microplastics and Nano-plastics: What Next?"

Waste

Management & Research, 2018, <https://doi.org/10.1177/0734242X18796770>.

Bator, Renee, Caidini, Robert. “The Application of Persuasion Theory to the Development Of

Effective Proenvironmental Public Service Announcements.” *Journal of Social Issues*,

vol. 56, no. 3. 2002, pp. 527-541.

Brahney, Janice, et al. "Plastic Rain in Protected Areas of the United States." *Science*, 2020, [https](https://doi.org/aaz5819)

[://doi.org/aaz5819](https://doi.org/aaz5819).

Cacioppo, John T. and Petty, Richard E.. *Communication and Persuasion: Central and peripheral route attitude change*, New York: Springer-Verlag, 1986, pp. 4, doi 10.1007/8 7-8-1-4612-3964-1.

Elkins, Duncan et al. “Illuminating hotspots of imperiled aquatic biodiversity in the southeastern

US.” *Global Ecology and Conservation*, vol.29, no. 1, 2019, *Science Direct*, doi.org/10.1016/j.gecco.2019.e00654.

GlobeScan. “Consumers will not save the world: Why now is the time for a reset.”

Healthy &

Sustainable Living Report 2023, 2023, pp. 4, chrome-extension://efaidnbmnnnibpcajpcgl

clefindmkaj/<https://globescan.wpenginepowered.com/wp-content/uploads/2023/10/Globe>

[scan_Healthy_and_Sustainable_Living_Highlights_Report_2023.pdf](https://globescan.wpenginepowered.com/wp-content/uploads/2023/10/Globe_scan_Healthy_and_Sustainable_Living_Highlights_Report_2023.pdf).

Kosuth, Mary et al. “Anthropogenic contamination of tap water, beer, and sea salt.”

PLOS ONE,

vol. 13, no. 4, 2018, <https://doi.org/10.1371/journal.pone.0194970>.

Larsen, Janet and Venkova, Savina. "Plastic Bag Bans Spreading in the United States." *Earth*

Policy Institute, 2014, https://www.earth-policy.org/plan_b_updates/2014/update122.

Leslie, Heather et al. "Discovery and Quantification of Plastic Particle Pollution in Human

Blood." *Environment International*, vol. 163, 2022, <https://doi.org/10.1016/j.envint.2022.107199>.

"Microplastics Facts & Figures." *Ocean Conservatory*, 2023, <https://oceanconservancy.org/wp-c>

[content/uploads/2023/02/Microplastics-Fact-Sheet-FINAL-2.3.23.pdf](https://oceanconservancy.org/wp-content/uploads/2023/02/Microplastics-Fact-Sheet-FINAL-2.3.23.pdf).

McNabb, David and Swenson, Carl. "Water Crises in the South and Southcentral Regions."

America's Water Crises, Palgrave Macmillan, Cham, 2023, pp. 257-278, https://doi.org/10.1007/978-3-031-27380-3_13.

"Pollution Issues." *Tennessee River Keepers*, 2023, <https://www.tennesseekeeper.org/pollution-issues>.

"Resident population of the United States by sex and age as of July 1, 2022." *Statista*, 2022, [http](http://www.statista.com/statistics/241488/population-of-the-us-by-sex-and-age/)

[s://www.statista.com/statistics/241488/population-of-the-us-by-sex-and-age/](http://www.statista.com/statistics/241488/population-of-the-us-by-sex-and-age/).

Salmon, Felix. "America's Continued Move Towards Socialism." *Axios*, Jun 25, 2021, <https://www.axios.com/2021/06/25/americas-continued-move-toward-socialism#>.

“Size of The Nanoscale.” *National Nanotechnology Initiative*,

<https://www.nano.gov/nanote>

ch-101/what/nano-size.

“Water For Everyone.” *Tennessee Valley Authority*, 2023,

<https://www.tva.com/Environment/M>

anaging-the-River/Water-for-Everyone.

Ya, Haobo, et al. "LDPE Microplastics Affect Soil Microbial Community and Form a

Unique

Plastisphere on Microplastics." *Applied Soil Ecology*, vol. 180, 2022

<https://doi.org/10.1>

016/j.apsoil.2022.104623.