

Microfibers, Macro problems

A resource guide and toolkit for understanding and tackling the problem of plastic microfiber pollution in our communities

Version 1: November 2017



Microfibers in Key Largo, FL, USA.
Photo by Wilfredo Lee

Written and Compiled by
Róisín Magee Altreuter

Early Childhood Science Educator
CuriOdyssey
San Mateo, CA

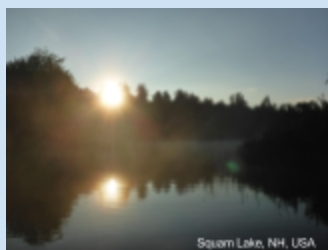
Ambassador
The 5 Gyres Institute
Los Angeles, CA

Master of Biology Candidate
Project Dragonfly's Global Field Program
Miami University
Oxford, OH



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Squam Lake, NH, USA



North Atlantic Ocean, Co. Cork, Ireland



San Francisco Bay, CA, USA



Parana River, Pilar, Paraguay
Photos by RMA

Introduction

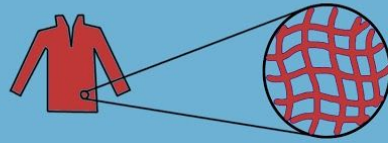
Microfibers are a type of microplastic (defined as plastic pieces less than 5 mm in size), that are threadlike in shape and between 100 μ - 5 mm long (Miller et al., 2017; Moore, 2008). The majority of these tiny threads of plastic are fibers from synthetic fabrics such as fleece and polyester (Browne et al., 2011). These particles enter our environment, especially our waterways, via contaminated wastewater effluent from the laundering of these plastic-based fabrics (Browne et al., 2011).

Microfibers are found aloft in our air, lacing our land, floating in our oceans, and even tainting our food and drinking water (Browne et al., 2011; Kosuth et al., 2017; Le, 2017; Rillig, 2012; Rochman et al., 2015). Microfibers appear to be far more common and problematic than microbeads and recent studies from across the globe suggest that microfibers are in fact the most common type of plastic polluting our oceans today (Anderson et al., 2017; Bagaev et al., 2017; Nel & Froneman, 2015; Peng et al., 2017). The flow of microfibers into our oceans is not currently being managed or regulated, making these invisible and ubiquitous plastics a major environmental and human health concern that requires action in our communities now.

As community activists, we are united by the common mission of protecting our oceans, animals, and communities from plastic pollution. We each bring a unique set of skills, knowledge, and passion that we can share and leverage to achieve this goal. This guide and toolkit was created in collaboration with 5 Gyres and is intended to help empower us to address this issue within our communities through enhanced understanding of microfiber pollution, including the sources, impacts, and possible solutions. Our voices are stronger together and together we can make a positive impact.

Microfibers, Macro Problems

how plastic fashion is polluting our lives and how we have the power to make a change



Globally, 60% of the clothing we wear is made of tiny plastic fibers. This includes materials like polyester, nylon, spandex, fleece, and more.

When we wash those clothes, they shed plastic fibers that exit with the wastewater...



...and are too tiny to be caught by wastewater treatment plant filtration systems.



The tiny plastic fibers flow directly into our waterways...



...where they build up in our oceans and are eaten by animals.



We rely on the ocean as a food source, which means that we are eating plastic fibers too.

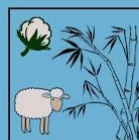
We rely on the ocean and the ocean relies on us.

We have the power to stop microfiber pollution

Microplastics are the most common type of plastic pollution in the ocean, and microfibers from washing plastic-based clothing is the #1 source of this problem.



Contact a clothing or washing machine company to let them know you want them to do better.



Wear more natural fibers like cotton, bamboo, and wool.



Wash your clothing using a Guppy Friend, Cora Ball, or washing machine filter.



Let your elected officials know about microfibers and ask them to push for solutions like regulation.



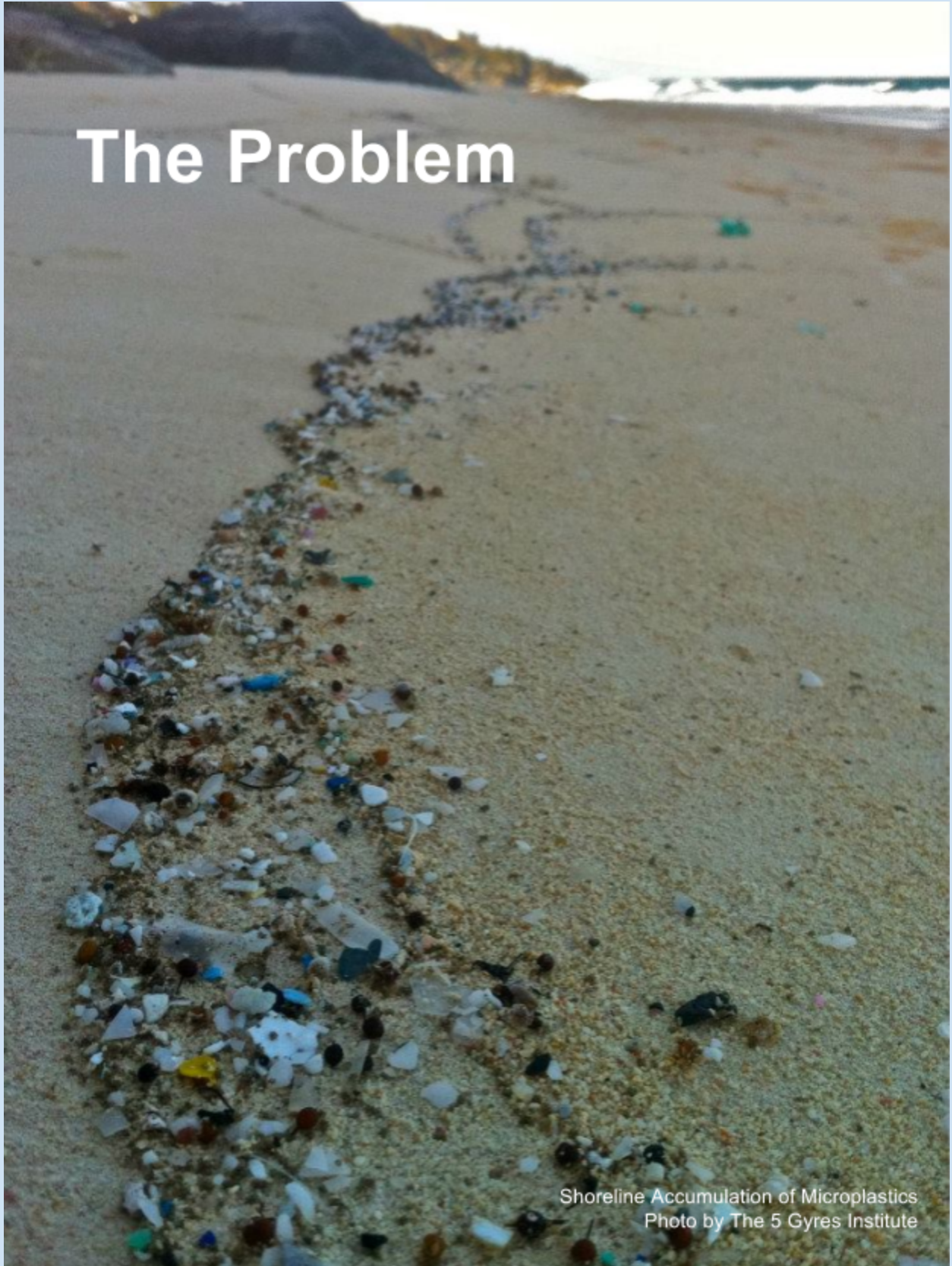
Humans are innovators! What ideas do you have to stop microfiber pollution?

#plasticfreefashion

Roisin Magee Altreuter

Find the infographic in .jpg format here: [Microfibers, Macro Problems Infographic](#)

The Problem



Shoreline Accumulation of Microplastics
Photo by The 5 Gyres Institute

The basics causal chain.

When we wash plastic-based synthetic fabrics and clothing (like polyester, fleece, nylon, spandex, and more) in washing machines, these items shed tiny plastic fibers. Those tiny pieces of plastic are too small to be caught by conventional filtration systems used within washing machines or by municipal water treatment plants, instead flowing freely out into our environment in great numbers via wastewater effluent. As a result of the widespread use of synthetic fabrics and a lack of adequate filtration, our environment, waterways and food resources are becoming inundated with these invisible plastics.

How many fibers are entering the ocean?

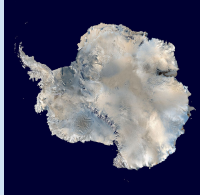
- A single piece of synthetic clothing can shed more than **1900 fibers in one wash** (Browne et al., 2011).
- It is estimated that at least **90 million microplastic pieces** are discharged from wastewater treatment plants into the San Francisco Bay each day, with the majority of those particles being synthetic fibers, likely in large part from the laundering of synthetic fabrics (Sutton et. al, 2016).
- A recent Norwegian study suggested that up to **1000 tons (2,204,623 pounds) of microfibers** go down the drain in Norway each year (Sundt et al., 2014).

What parts of the world are affected?

Microfibers from laundering synthetic textiles are the **#1 global source of primary microplastics**. 34.8% of primary microplastic released into the oceans are from the washing of plastic fabrics (Boucher & Friot, 2017). Globally, 60.1% of the clothes we consume are made out of plastic (68% in developing economies, 48.2% in developed economies) (Boucher & Friot, 2017). Emerging research from around the world examining the abundance of microfibers is being published very frequently. Here is a small sampling from across the globe:



Africa: Microplastics were collected in all 21 sample sites along the southeastern coast of South Africa and 90% of those analyzed were microfibers (Nel & Froneman, 2015).



Antarctica: Microfibers were found abundantly in a sampling study in Admiralty Bay, Antarctica in 2010 - 2011 (Theresinha et al., 2017).



Asia (China): In the Changjiang Estuary of Shanghai, China, 53 sediment samples were examined and 93% of the microplastics discovered were microfibers (Peng et al., 2017).

Asia (Middle East): 83% of microplastics found across 5 sites from the Strait of Hormuz (Persian Gulf) were microfibers (Naji et al., 2017)



Australia: Wastewater treatment plants were found to emit approximately 1 microplastic piece per liter of water, with microfibers being the most common type (Browne et al., 2011).



Europe: 63% of water samples collected from the Baltic Sea contained microfibers (Bagaev et al., 2017).

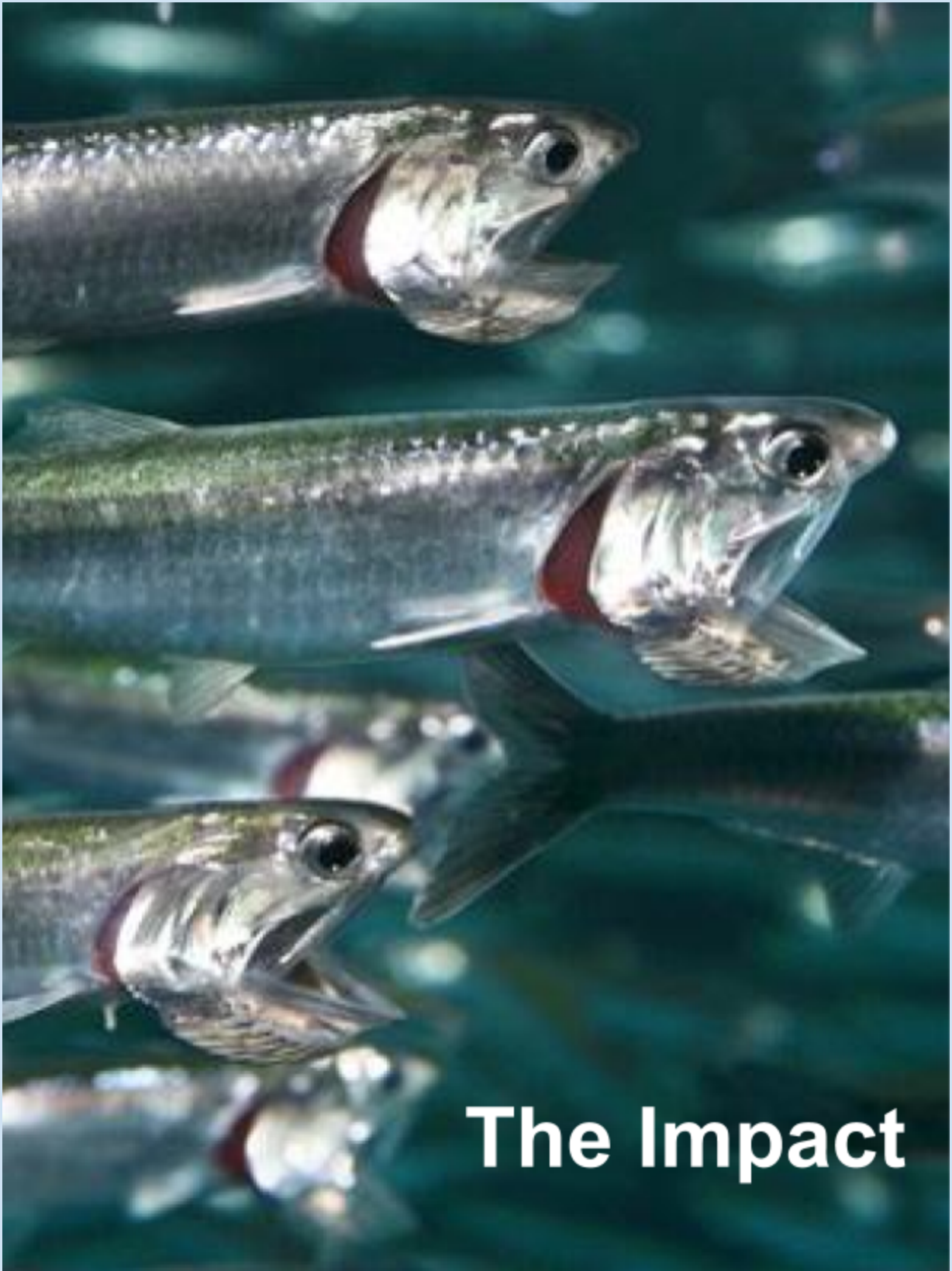


North America (Canada): Microplastics were found in all samples taken from Lake Winnepeg, Canada and the majority of those were microfibers (Anderson et al., 2017)

North America (US): An estimated 300 million microfibers flow from the Hudson River Watershed into the Atlantic Ocean each day (Miller et al., 2017).



South America: 83% of fish caught by local fisherman in the Pajeú river crossing in Serra Talhada, Brazil contained plastics, with microfibers being the most commonly observed type (Silva-Cavalcanti et al., 2017).



Marine animals are eating microfibers.

Like microplastics, microfibers are a similar size to plankton (Nel & Froneman, 2015). This small size poses a large problem because a wide variety and high number of marine species eat plankton via filter feeding. While targeting plankton, these species appear to frequently consume microplastics as well. In fact, the chemical properties of plastics may even cause some organisms like corals to target microplastics (Allen et al., 2017). Studies have shown that species such as zooplankton, coral, fish, crabs, mussels, whales, and many others ingest microplastics directly (Besseling et al., 2015; Desforges et al., 2015; Hall et al., 2015; Rummel et al., 2015; Watts et al., 2015; Van Cauwenberghe & Janssen, 2015).

We're eating them too.

Research has shown that because human populations rely on the ocean as a major food source, we are consuming microplastics as well. It is estimated that average shellfish consumption could lead an individual to ingest 11,000 microplastic pieces per year (Van Cauwenberghe & Janssen, 2015). In another study, 83% of fish caught by local fisherman in the Pajeú river crossing in Serra Talhada, Brazil contained plastics, with microfibers being the most commonly observed type (Silva-Cavalcanti et al., 2017). Dietary exposure to microplastics is not exclusive to meat, as another study found microplastic contamination present across 15 brands of table salt for sale in China (Yang et al., 2016). Even more shocking is recent research that found 83% of drinking water samples tested around the world to contain microplastics (Kosuth et al., 2017). This truly is a challenge faced by the entire global community together.



Microplastics absorb, accumulate, and pass on environmental toxins.

While the full effect of consuming microplastics on animal and human health are only beginning to be understood, microplastics have been shown to absorb, carry, and retain pollutants (Hankett et al., 2016; Hirai et al., 2011) and leach those compounds into the tissue of animals that consume them (Tanaka et al., 2013; Yamashita, 2011). Studies are beginning to emerge that highlight the negative impacts of microplastic ingestion on marine life. For example, microplastic consumption has been linked to liver toxicity in fish, decreased reproductive potential in oysters, and decreased survival and predator aversion ability in beachhoppers (Rochman et al., 2013; Sussarellu et al., 2016, Tosetto et al., 2016). Animals may be affected by the toxins carried by microplastics even without ingesting them, with one study finding that brown mussel larvae were sensitive to being in the mere presence of leachate from plastics (Gandara e Silva et al., 2016). These studies altogether suggest that plastics in the ocean accumulate toxins, pass those chemicals to the tissues of organisms that consume them, and can create a significant health risk to marine animals and potentially humans.

Plastic fashion is made from fossil fuels.

Synthetic fabrics, including polyester, nylon, rayon, fleece, spandex, and more, are made from plastic and plastics are made from oil, which is a fossil fuel. When we purchase these items we are supporting the plastic and fossil fuel industries, which contribute to climate change.

Microfibers are not just a problem for the ocean.

We live in a world of microfibers. Studies have not just found them in waterways and the ocean, but also in the air that we breath, the dust in our homes, the water we drink, the fields that house our food production and more (Browne et al., 2011; Le, 2017; Kosuth et al., 2017; Rillig, 2012; Rochman et al., 2015). We face this common and widespread challenge together as a global community.

The Solutions



The 5 Gyres Institute
Sampling for
Microplastics

Multiple levels, many possibilities.

The issue of microfiber pollution can be tackled at multiple levels - the companies that produce plastic fabrics, the clothing companies that use and sell products made from synthetics, consumers themselves, washing machine companies, municipal wastewater treatment plants, and more. In some ways, this means that there are many opportunities to collaborate and approach this issue and make a difference. However, this lack of one obvious solution has also led to some confusion and disagreement about the best and most appropriate way to tackle microfiber pollution. In this section, many solutions are presented and negatives and positives of each one are discussed. **It is important to keep in mind that since this is such a far reaching issue, a network of solutions that target multiple levels will be required.** Consider this chart a list of many things that we should work to incorporate into a complete and collaborative strategy.

Various solutions overviewed.

Target	Solution	Pros	Cons
Fabric & Clothing Companies	Produce & use fewer synthetic fabrics - switch to alternatives	<ul style="list-style-type: none"> • Holds companies and corporations responsible • Would significantly reduce pollution in the long run • Many alternative natural fibers exist 	<ul style="list-style-type: none"> • Difficult to accomplish since many companies rely on performance fabrics for athletic wear, waterproof clothing, swimsuits, and more. • Synthetic fabrics last a long time so even if we cut production now, people will be washing them for a decades.
Fabric & Clothing Companies	Coat fabrics in something that will cause them to shed fewer fibers	<ul style="list-style-type: none"> • Holds companies and corporations responsible • Has the potential to significantly reduce pollution in the long run 	<ul style="list-style-type: none"> • Much research and development needed • Many questions remain, including - how long would the coating last? Is it safe?
Fabric & Clothing Companies	Improve synthetic fabrics to cause them to shed less through tighter weaving, etc.	<ul style="list-style-type: none"> • Holds companies and corporations responsible • Has the potential to reduce pollution in the long run • Allows for the use of synthetic fabrics in waterproof and performance clothing (think raincoats, ski pants, etc.) 	<ul style="list-style-type: none"> • Pollution still occurs • More research and development is required to determine what qualities make fabrics shed more or less

Washing Machine Companies	Add pre-installed filters to all washing machines	<ul style="list-style-type: none"> • Holds companies and corporations responsible • Has the potential to significantly reduce pollution in the long run 	<ul style="list-style-type: none"> • Could affect the functionality of the machine • Would require research and development, which could cause companies to push back, resulting in slow progress • People already own washing machines and they last a long time, so this would be a slow transition.
Municipalities	Mandate any of the above policies (such as - washing machine companies must include a filter, etc.)	<ul style="list-style-type: none"> • Has the potential to significantly reduce pollution in the long run • Does not rely on individual action • Community based, big picture solution 	<ul style="list-style-type: none"> • Policy changes tend to take a lot of time to pass and enforce, especially due to lobbying from special interest groups • Could be difficult to enforce
Municipalities	Install finer filtration small enough to catch microfibers in all wastewater treatment plants	<ul style="list-style-type: none"> • Has the potential to significantly reduce pollution in the long run • Does not rely on individual action • Community based, big picture solution 	<ul style="list-style-type: none"> • Would be very expensive • Would take a lot of time for research, development, and installation
Individuals	Wash synthetics in a microfiber catching bag (Guppy Friend) or with a microfiber catching ball (Cora Ball)	<ul style="list-style-type: none"> • Allows passionate individuals to start acting right now • Reduces flow of microfiber pollution immediately • Prevents clogging of sewage systems and septic tanks by catching particles like microfibers and pet hair 	<ul style="list-style-type: none"> • Puts responsibility on the individual • Requires purchase • Requires individual to remember to add something to their laundry every time • Does not catch all microfibers (Cora Ball is reporting about 35% capture, Guppy Friend Bag is reporting 66% - close to 100%) • Needs to be cleaned out • Can give a false sense of security that can lead people to continue purchasing and washing plastic fabrics (like recycling and plastic consumption)
Individuals	Install a filter on your washing machine	<ul style="list-style-type: none"> • Allows passionate individuals to start acting right now. • Reduces flow microfiber pollution immediately • Prevents clogging of sewage systems and septic by catching particles like microfibers and pet hair 	<ul style="list-style-type: none"> • Puts responsibility on the individual • Requires individuals to purchase something • Intimidating to install a new fixture • Needs to be cleaned out

Individuals	Wash synthetic clothing less often	<ul style="list-style-type: none"> • Allows passionate individuals to start acting right now. • Reduces flow of microfiber pollution immediately 	<ul style="list-style-type: none"> • Pollution still occurs - it is difficult to get the word out about this issue and get people to take action. Plus, clothing still needs to be washed eventually.
Individuals	Choose to stop wearing and purchasing synthetic clothing	<ul style="list-style-type: none"> • Allows passionate individuals to start acting right now. • Reduces flow microfiber pollution immediately • There are many great alternative natural fabrics 	<ul style="list-style-type: none"> • Most people already own synthetic clothing and it is unfair to expect individuals to throw out clothing and pay to purchase a whole new set • Some items with functionalities like waterproofness are difficult to replace with natural fibers
Individuals	Advocate and educate in your communities	<ul style="list-style-type: none"> • Allows passionate individuals to start acting right now. • Raises awareness about the issue and prepares people to take action and accept solutions • Spreads knowledge to a wider audience • Includes making political phone calls and writing letters, which is a great way to turn an individual action into a community level movement. 	<ul style="list-style-type: none"> • Unfortunately, education and awareness does not always equal action, so pollution still occurs
<p>Your solution here!</p> <p>There are many ways to tackle this issue - this list is certainly not exhaustive. We will continue to innovate to solve this problem. What ideas do you have?</p>			

Sources consulted and cited: Cora Ball, Environmental Enhancements, Guppyfriend, Mermaids Life + Project, Patagonia, Plastic Pollution Coalition, Stiv Wilson (See “Websites consulted and cited, page 33)



Take Action

Royal Albatross, Dunedin, New Zealand
Photo by RMA

Humans are the Solution

The good news with this relatively recently recognized source of plastic pollution is that thanks to sound science and dedicated advocacy, we know exactly what the problem is. This clear and identifiable causal chain means that we have the power to take steps to help. Humans may be the source of this problem, but that also means that we can be the solution. Each of us has the power and privilege to take action to fight against plastic microfiber pollution.

In the previous solutions section, many solutions were reviewed. In this section, some of those solutions are expanded upon and digested into actionable suggestions for how each of us can start to make a difference today. This is by no means an exhaustive list. You know your community best - use your knowledge to design solutions that will work where you live and love.



Photo by The 5 Gyres Institute

Individual Level Actions.

The choices that we make each day impact the environment. However, as informed citizens, we can choose to make those impacts a good thing by choosing wisely.

You have the (purchasing) power.

The purchasing decisions that we make on a daily basis can help to address this problem. For example, It is best to avoid 'fast fashion' like that found at large inexpensive chains like H&M. Those items tend to be lower quality, causing them to have a shorter lifespan and to shed more in the wash (Update on Microfiber, 2017). A surefire way to address this problem is to shift our wardrobes to natural fibers and **avoid plastic fashion all together**. The great news is that there are many wonderful alternative to synthetic fabrics (A-Z Glossary, 2014). Here are just a few of the many available options to consider -

- Bamboo
- Banana Fiber (abaca)
- Coconut Fiber (coir)
- Cork
- Corn Fiber (ingeo)
- Cotton
- Hemp
- Jute
- Kapok
- Linen
- Modal
- Pineapple Silk
- Silk
- Wool

For when you do have to wash your synthetics.

Groups and companies like Patagonia and Mermaids Life+ Project have begun conducting research on the factors that affect how many microfibers a piece of clothing will shed in the wash. So far, the research suggests that individuals might try the following steps to reduce your microfiber footprint when washing synthetics: Wash with -

- A full load
- Liquid laundry detergent
- Cold water
- Low spin speed
- Shorter cycle time
- Fabric softener
- Front loading washing machine
- Always be sure to put dryer lint in the landfill



Community Level Actions.

One of the best tool that we have to fight microfiber pollution is our own voice. Each of us has a say in our own community and political system and we can leverage that by asking companies, politicians, and more to do better. It is an unfortunate reality that because of the vast reach of this problem, individual small-scale actions will not be enough. In concert with these personal choices, we must come together to push for large-scale community changes.

The Power of the Pen and Phone: Letters and Calls

One great way to express your opinions to any company, group, or person is via letter or phone call. Writing allows you the time to express your opinion in a thoughtful way, to include more information, and to share your ideas with multiple audiences. Phone calls are a great way to quickly make sure your voice is heard.

There is no need to be intimidated by this process - It is great to keep it short and to the point! Just be sure to keep a positive tone; people are more likely to be receptive to your thoughts and ideas if you focus on what the person or organization can do to help rather than what they are doing wrong.

Below are a few sample templates offering how you might approach a letter or phone call about microfiber pollution. Keep in mind that these are just flexible canvases - feel free to adjust them to suit your community's needs!

Tip - get your friends involved!

One great way to make this process more fun and impactful is to get more people involved. Consider hosting a letter writing or phone banking party - invite some friends over, have some snacks and spend some time making a difference! Groups are more likely to respond if they receive a larger volume of feedback about microfibers.

Contact a Clothing Company.

All people, animals, and ecosystems are shouldering the burden of microfiber pollution. Yet, the generation of this invisible danger lies largely with companies producing and using plastic fabrics. As consumers, we can demand that they take responsibility for creating this problem. Below is one example directed at Patagonia, a company that generally has a strong environmental commitment and that has already taken some steps to publicly take responsibility and learn more about this issue. You could also consider writing a letter to large fast fashion companies, such as H&M.

Sample letter template:

6 November 2017

Dear Patagonia,

I love your products and trust your brand. You have time and again proven your commitment to making high quality clothing at a low environmental impact. However, as we learn more about how our choices and practices affect our planet, we must continue to grow our understanding of what that means. Together we now face a new threat in microfibers.

I have read and appreciated your work to study this issue and consider the impact your products, largely made out of plastic-based fabrics, have. However, microfibers are continuing to pour into our environment at an alarming rate. Scientists are now finding microfibers in every corner of our planet, including in our food, air, and drinking water. It is time for Patagonia to step up once again and take the lead. You are a company that other companies look to and in that role, there is great responsibility to do that right thing. That is why I am asking and urging you to decrease your dependence on plastic fabrics. There are many alternatives available like bamboo, cotton, wool, and more that would both serve your purposes and the environment.

Microfibers are an unprecedented environmental and human health concern. At this point, advocacy and research is no longer enough - it is time to act. We must all take steps to stop their flow into our environment to protect our oceans, animals, and human communities. I hope that I can count on Patagonia to leverage your position to make a positive impact by reducing your use of synthetic fabrics and by influencing other companies to do the same.

Sincerely,

Your Name

Here is a link to a google document version you can copy and modify to suit your communities needs: [Letter Template: Clothing Company](#).

Sample call script:

“Hello, my name is <your name> and I am a customer of <company name>. I love the clothes you make and am calling because I have an important suggestion for how you can make an even better product that will help to keep our communities and environment safe. Plastic-based fabrics like polyester and fleece that you use in a lot of your clothing shed tiny plastic fibers that are getting everywhere into our environment, including into our food and drinking water. You can help by switching to more natural fabrics like cotton and bamboo and by doing research on how you can make sure your fabrics shed fewer of these plastic pollutants. Doing this will help to make sure our environment and resources are safe and clean and help make you a leader in sustainability in the fashion industry. Thank you.”

Who to contact:

There are many options for who to contact - from outdoor brands that you know want to make a difference like Patagonia to huge fast fashion companies that, as large clothing companies, are some of the major contributors to the problem. Consider contacting a company that you have bought from before and let them know that you are a customer.

Company	Main Address	Phone Number	Website (Includes International Contact Information if avail.)
Patagonia	Patagonia 259 W Santa Clara St. Ventura, CA 93001 customer_service@patagonia.com	1-800-638-6464 (775) 747-1992	http://www.patagonia.com/customer-service.html
H & M	H & M Hennes & Mauritz AB Mäster Samuelsgatan 46A SE -106 38 Stockholm SWEDEN	855-466-7467 +46 8 796 55 00	http://sustainability.hm.com/en/sustainability/contacts/contact-us/hm.html/se

Contact a Washing Machine Company.

Washing machine companies are in a unique position to help stem the flow of plastic pollution into our environment. If it became standard to integrate microfiber filtration systems into their products, similar to the lint trap on a dryer, this could significantly reduce microfiber pollution over time. Such units are not currently on the market but again, as consumers, we have the ability to ask them to do better.

Sample letter template:

6 November 2017

Dear Company,

Plastic is polluting our oceans and even contaminating our food and drinking water. Most of this plastic litter is made up of tiny pieces called microplastics and scientists researching this issue have discovered that the biggest source of this toxic trash is the laundering of synthetic clothing in home washing machines. New studies have found microplastics from clothing in seafood, table salt, drinking water, and more. This is a major environmental and human health issue.

What gives me hope in the face of this challenge is that I know there are individuals and organizations fighting to make positive change. Your company is in a unique position to make a real difference and be a part of the solution. I urge you to take advantage of that position and become a leader of environmental and community health by including built in microplastic filters in all of your units.

Taking this step would help to mitigate the environmental and human health impact your product is contributing to by catching microplastics before they can contaminate our planet. I am confident that your customers want you to help protect our oceans and their health and that including microplastic filters on your washing machines would be a positive stride for your business.

The choices we make have lasting impacts on our planet and the effects of those choices will be felt by generations to come. You have the chance here to make a positive choice that will help people, the planet, and your business. I hope I can count on you!

Sincerely,

Your Name

Here is a link to a google document version you can copy and modify to suit your communities needs: [Letter Template: Washing Machine Company](#).

Sample call script:

“Hello, my name is <your name> and I am a customer of <company>. I am calling with a suggestion for how your company can become a leader in sustainability and help to protect our future. When we wash our plastic-based clothing like polyester and fleece in washing machines like the ones made by your company, those clothes shed thousands of tiny plastic pieces into our environment. These plastic bits are ending up in our food resources and even drinking water. You are in a great position to do something about it by including filters that would catch these polluting plastics before they even leave our houses. I urge you to please consider taking this action to keep plastic out of our oceans and off of our plates. Thank you.”

Who to contact:

Here is a list of some of the largest washing machine companies worldwide along with contact information.

Company	Main Address	Phone Number	Website (Includes International Contact Information if avail.)
AEG	800 West Olympic Blvd., Suite 305 Los Angeles, CA 90015	(213) 763-7700	http://aegworldwide.com/about/companyoverview/contact
Bosch	Robert Bosch GmbH Bosch Service Center Postfach 30 02 20 70442 Stuttgart GERMANY	1-800-944-2904 +49 711 400 40990	https://www.bosch.com/contact/
Electrolux	AB Electrolux, SE-105 45 Stockholm, Sweden sustainability@electrolux.se	(877) 435-3287 +46 8 738 60 00	http://www.electroluxgroup.com/en/sustainability-contacts-1125/
IFB	IFB Industries Limited Home Appliances Division, L1, Verna Electronic City, Verna Salcete, Goa-403722, India		http://www.ifbindustries.com/contact.php
Kenmore	3333 Beverly Road Hoffman Estates, IL 60179	1-888-536-6673 847-286-2500	https://customerservice.kenmore.arsplatform.com/

LG	201 James Record Rd SW Huntsville, AL 35824-1513	800 243-0000	https://www.lg.com/us/support/email-appointment http://www.lg.com/global/business/support/global-service-network
Maytag	Maytag Customer Service 553 Benson Road Benton Harbor, MI 49022	1-800-344-1274	https://www.maytag.com/services/contact-us.html
Panasonic	helpline@in.panasonic.com	1800 103 1333	https://www.panasonic.com/global/support/get_support.html
Samsung	105 Challenger Road Ridgefield Park, NJ 07660	800-726-7864	https://www.samsung.com/us/support/home-appliances/washers
Whirlpool	2000 N. M-63 Benton Harbor, MI, 49022-2692	269-923-5000	http://www.whirlpoolcorp.com/contact/



Spotted Dolphin - Drake Bay, Costa Rica
Photo by RMA

Contact a Political Figure.

There are many asks you might make to a local political figure. For example, you may ask for legislation to fund science research on this issue, to require clothing and fabric companies to reduce their dependence on synthetics, to mandate washing machine companies install microfiber filters, or to support the installation of municipal microfiber filtration systems. Contact someone who represents your area and be sure mention that you are a constituent in their district.

Sample letter template:

6 November 2017

Dear Official,

My name is <insert your name here> and I am a constituent living in <insert your city and/or region>. I love living in this community because of <personalize a sentence here about why you love your community - access to nature? kind people? great food? Make it your own!>. However, I am concerned for the safety of our local environment and for the health of our community members.

I recently heard that tiny pieces of plastic, called microplastics, are everywhere including in our oceans, on our lands, in our food, our air, and even in our drinking water. We are polluting our world with these tiny toxic plastics when we wash clothes made out of plastic-based fabrics like fleece, spandex, polyester and more. A single piece of clothing can shed up to 1900 tiny plastic fibers per wash, and all of that goes straight out through our wastewater treatment system into the environment. Washing synthetic clothing is now recognized as the number one source of plastic pollution in our environment.

I care about our community and I want it to stay healthy and safe for generations to come. We have the responsibility to be good stewards of our environment and I need your help to do this. I urge you to <insert your ask here - fund research into solutions, install municipal filters, or any of the others discussed above. Use bold text for emphasis.>. You have the chance to be a leader in the fight to protect our oceans, lands, and health. I hope that I can count on your support - I am proud to live in a district represented by someone I know will take action to keep us and nature safe and plastic free!

Sincerely,
Your Name

Here is a link to a google document version you can copy and modify to suit your communities needs: [Letter Template: Political Figure](#).

Sample call script:

“Hello, my name is <name> and I am a constituent living in <city>. I am calling as a concerned citizen hoping that you can help to protect the future of our environment and our community. Plastic-based fabrics, like polyester and fleece, shed thousands of tiny plastic fibers into our environment, especially when they are laundered in home washing machines. The plastic pieces flow out with the wastewater and are too small to be caught by our water filtration, and are pouring straight into our waterways, ending up in our oceans and in the food and drinking water that we consume. This is a major environmental and human health concern, but one that we have the power as a community to address. I am urging you to consider <your ask here - funding a municipal filtration system, funding research, mandating filters in washing machines, or anything else>. I voted for you because I knew I could count on you to stand up for our community and environment and this is your opportunity to prove that I made a great choice. Thank you.”

Find tips on making political phone calls here:

<http://www.ucsusa.org/action/phone-calls.html#.WgFLh5OGPMU>

Who to contact:

- United States: visit <https://www.usa.gov/elected-officials> to find contact information for your local officials. Call the congressional switchboard at (202) 224-3121 to be transferred to your congressperson’s phone line.

Create a pledge.

Asking people to commit to a particular action by signing a pledge can help lead to lasting behavior change (McKenzie-Mohr, 2000). For this reason, you could consider creating a short pledge for people to sign if you are tabling at an event or in your local community. Target an action that makes sense where you live. That might mean asking people to pledge to stop buying plastic fashion, to wash their synthetics less often, to install a microfiber filter on their washing machine, or something completely different. Try looking back at the solutions chart starting on page 11 and chose an ask that you think is achievable and approachable for you community. If possible, try to record contact information and follow up after a few months to see how the pledge is going.

Sample pledge template:

**MORE OCEAN
LESS PLASTIC**
THE 5 GYRES INSTITUTE

#plasticfreefashion

Plastic microfiber pollution is the most common type of plastic in our oceans. When we wash plastic-based fabrics like fleece and polyester, they shed thousands of tiny plastic pieces too small to be caught by current filtration systems. Instead, they flow straight into our waterways, endangering animals, the environment, and human communities alike. With your help, we have the power to make it stop.

I pledge to wear natural fiber clothing, such as cotton, wool, bamboo, silk as much as possible and avoid plastic-based clothing, like polyester, nylon, spandex, and fleece, whenever I can.

Signature	Name	City	Email Address

Here is a link to a google document version you can copy and modify to suit your communities needs: [Plastic Free Fashion Pledge Template.](#)

Pledge follow-up:

A few months after the pledge, try emailing your participants with some words of encouragement and to see how it is going. You could try creating a survey using a free online tool such as [Survey Monkey](#) to ask if they have changed their habits, what has been challenging for them, if they've looped any friends in to the pledge, and more. Here is one example of how you could word a short email -

"Hello!

It has been <number> months since you took the pledge for #plasticfree fashion! Awesome! How's it going so far? If you have a moment, I would love your feedback via this short survey. It should only take 5 minutes to complete.

In the meantime, I want to say a huge thanks for your pledge. Plastic microfibers can feel like an overwhelming problem, but it's people like you that give me hope for a safer, cleaner world for our ecosystems and communities. You rock!

All the best and thanks again for all of your efforts for #moreoceanlessplastic!

<your name>

5 Gyres Ambassador

<https://www.5gyres.org/plastic-fashion/>"

Create a petition.

Petitions are a great way to not only make a statement about how many people are concerned with a particular issue or making a particular ask, but they are also a great way to spread information about an issue. Simply circulating a petition can help people to become more aware of an issue and help them feel empowered to use their voice to make a change.

There are many online tools available to help you create a petition. An easy to use version can be found at:

<https://www.change.org/start-a-petition>

Here are some tips on how to make your petition a success:

<https://savingplaces.org/stories/preservation-tips-tools-9-tips-for-creating-successful-petitions-on-change-org#.WfAPhpOGPMU>



Pancake Rocks, South Island, New Zealand

Share what you're up to.

Make sure to always share what you are working on! We do best when we work together and have a flow and exchange of ideas and support. Plus, if we all talk about how we are working on this problem, it will become more usual to refuse to accept the norm of plastic fashion. Sharing our ideas and efforts can help to strengthen our network so that we can help our planet move towards **#plasticfree fashion**
#moreoceanlessplastic #5Gyres #5GyresAmbassador.



Photo by Max Liboiron

Wrapping It Up with Hope

Microfiber pollution is a major environmental and human health challenge. In the face of such a broad threat to all environments, wildlife, and human communities, it is easy to feel overwhelmed and despaired. In these

moments, it is critical to focus on hope and unity. We are in this together as a global community and through that interconnected network, we can make a real difference.



While it is true that humans are the source of this issue, that fact inherently means that we are also the solution. People are natural innovators - we are constantly using new, creative ideas to make the world a better place from new technologies to new waves of activism. We simply need to harness that energy and intellect toward this problem to protect the future of this planet and the human and animal communities that rely on it.

To be a leader in this challenge and others will require a great deal of persistence, positivity, and passion. You cannot change the world overnight. You cannot change your community overnight. But, you can keep adapting and fighting for the things important to you. Each of us is just one piece of a large and beautiful puzzle. As you fight on for your piece, in your community, find comfort in the fact that you are a part of a network of changemakers, all contributing to the larger mosaic of the movement to protect our planet. Celebrate your small victories, share your passion, and never give up. We've got this!

Become an ambassador.

Interested in becoming more connected to a supportive network of changemakers? Consider becoming a 5 Gyres Ambassador! Learn more at - <https://www.5gyres.org/ambassadors/>

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