

## MICROPLASTIC AWARENESS MATTERS- FROM YOUR KITCHEN TO THE OCEAN

Plastics are everywhere in the kitchen and sometimes even at your dinner table.

Do you have a lot of disposable plastic in your home? Do you use a lot of plastic when away from home? Plastic spoons, knives, forks, serving utensils, cups, straws, grocery bags, plastic water and juice bottles, bottle caps, six-pack plastic can and bottle holders, plastic grocery bags, food wrap, plastic food containers and take out containers are all sources of plastic commonly found in the kitchen.

It's a good time to assess how much plastic you and/or your family are using on a regular basis and how this usage can affect our environment and ultimately our planet.

***“Microplastic- Awareness-Matters when planning meals, beverage intake and snacks!”***

- Brenda Marty Jimenez, UF/IFAS Extension Broward County

In Family and Consumer Sciences we often say fresh from the *Farm- to- Table* is good. Reflecting on the topic of microplastics, from *Kitchen -to- the- Ocean* is **not** so good.



### **What is a microplastic?**

Many of us have seen the disturbing video of the giant “Pacific Garbage Patch” which is not actually a “plastic-island” floating in the ocean .

According to Maia McGuire, Sea Grant agent for UF/IFAS Extension St. Johns and Flagler Counties, these videos showing large amounts of floating plastic are generally from nearshore areas (Bali, Indonesia, or in the Caribbean) close to river outfalls (which carry lots of mismanaged waste plastic to the ocean).

In the ocean, the plastic seems to break apart and because most plastic is more dense than seawater, much of it presumably sinks. Video from the mid-ocean gyres (aka “garbage patches”) actually shows beautiful blue water with very little obvious plastic until you drag a fine-mesh net through the water and find the large numbers of very small pieces (microplastics).

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<http://sfyl.ifas.ufl.edu/broward/family-and-consumer-sciences/>

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Many have seen the pictures of dissected marine life showing their digestive tracks filled with plastic items they have mistaken for food. Plastic is now a key component of most aquatic zoo plankton food chains and this can move higher up the food chain. According to Dr. McGuire, we don't know the actual effect on plankton; it has been theorized but not tested in lab studies. This theory needs further study.

### **Microplastics can be found throughout the world's ocean and coastal habitats, from surface waters, marine life, to sea sediments.**

Like it or not, there is a significant amount of plastic making its way into the environment. It is estimated that millions of tons of plastic have entered the oceans of our planet.

Microplastics are pieces of plastic that are five millimeters in size or smaller. Microplastics can get into ocean water through wastewater treatment plants and from the disposal of plastics in stormwater runoff etc. Toxic chemicals can be found in plastics; some are potentially harmful if eaten. As previously mentioned, when marine life eat plastic, the toxins in the plastic can end up in the animals' tissues. This can potentially be harmful to the human food supply especially from those species of fish specifically harvested for human food consumption. Currently, there is little evidence connecting health related problems to the human consumer but there is concern. There is also concern of bioaccumulation of these contaminants as they move up through the food system, but this is still a new area of research.

#### **Where do microplastics originally come from?**

They can originate at your dinner table, at a family picnic, a restaurant, an outdoor celebration, the grocery store or at a work-related gathering or event that includes food and disposable containers.

Many microplastics form because of the degradation of larger pieces of plastic. As a society, we use a lot of plasticware, straws, plastic bags, cups, single use plastic bottles, etc. Plastics disposed of on land can be washed into coastal water bodies during rain events.



Petroleum-based plastics may never biodegrade, but physical and chemical processes cause them to fracture into smaller and smaller pieces over time. (Large plastic items degrade when exposed to seawater, sand and seawater friction or sunlight.) These plastics are then found somewhere in our environment and are located all over our planet including our beautiful oceans.

Public awareness of microplastic and its harm can help stop the damage it is doing to our global water supply, marine life and even possibly into our human food supply.



## What can you do to help?

What can you do when planning meals, purchasing food, eating out, disposing of trash, hydrating yourself during a hot Florida day or simply grabbing a cup of coffee?

1. Commit yourself to making our planet better. Commit to putting into place some effort to personally decrease plastic use in your kitchen and in your life.
2. Cut back on regular use of single-use plastics. Plastics are found everywhere in our kitchens, lunch boxes, and even at the dinner table during consumption of take-out meals.
3. Reduce usage of plastic zip lock type snack bags-Why not use a reusable food grade container repeatedly and save money at the same time? Consider making this change.
4. Use reusable grocery bags instead of plastic grocery bags. Some of them have some neat designs and patterns! Make sure to clean and air dry them as needed.
5. For-go the straw! Reduce the amount of plastic waste you and your family generate today from straw use. Don't use single-use plastic straws. Purchase a reusable straw and clean with a brush designed to clean this type of straw. Many companies and restaurants have eliminated the purchase and use of plastic straws, which is great. Others offer by request only. This is a start on eliminating more plastic.
6. Purchase a good quality reusable water bottle that you can use repeatedly and take with you to stay hydrated in the hot Florida sun.
7. Limit the purchase of single serving plastic water and juice bottles. Recycle them when used.
8. Purchase and use a good quality insulated coffee cup and reuse. Re-fill at coffee shops. Avoid use of foam and plastic cups and lids. Make sure to clean and sanitize reusable water bottles and coffee mugs properly; use hot soapy water and air dry, as able.
9. Don't use foam or plastic disposable cups, single-use side-dish or meal containers as able. Often time is limited, and we pick up takeout food from the outside; dispose of these waste materials properly. Never ever throw them into the water or on land.
10. When purchasing a six-pack of beverages held together with a plastic ring-strip, cut open the rings before tossing into the trash. Should this end up in the ocean, marine life can get stuck in the plastic rings which could be lethal. Protect our marine life! Marine life matters.
11. Reusable beeswax food wrap is becoming more popular. Use this instead of plastic wrap. Sea Grant Hawaii has instructions for making your own beeswax food wraps. For more information see the link below.
12. At picnics limit or eliminate the amount of plastics and plastic serving ware used; bring the real silver ware or those made of harvested birch and wash them when returning home. It is a little more work to do the dishes by hand but take the time to do it.

***“It is sometimes difficult to feel like one person can make a difference. But if each of us makes one behavior change that eliminates one piece of plastic waste a day, that’s 365 pieces of plastic that will be prevented from potentially entering the environment every year. Sharing your actions with others will multiply that effort!”***

- Maia McGuire, UF/IFAS Extension St. Johns and Flagler Counties,





## What can you do to help? (continued)

13. At picnics limit or eliminate the amount of plastics and plastic serving ware used; bring the real silver ware or those made of harvested birch and wash them when returning home. It is a little more work to do the dishes by hand but take the time to do it.

***“There are disposable wooden utensils available (made from sustainably-harvested birch). These will decompose rapidly in a home compost pile.”***

-Maia McGuire, UF/IFAS Extension St. Johns and Flagler Counties

14. Don't use any hand soap, hand sanitizers or cleaning scrubs containing microbeads that you may still have around the house to wash and sanitize your hands before and after meal preparation. These microbeads can travel down the drain and then into the sea and look like fish food. Dr. McGuire notes, “These can no longer legally be sold in the US (effective July 1, 2018-they are banned by the Microbead-free Waters Act of 2015). Handwashing is one of the best ways to help stop the spread of infection, so do engage in frequent handwashing just not with the microbead containing soap.

15. Do your part! Participate in a coastal clean-up with an organized group or on your own with friends and family this Saturday. Every effort helps.

16. *Recycle! Recycle! Recycle!*

17. Habits are hard to change! Consider changing your habits to better the planet.

### *Looking forward...*

**Reduce plastic waste! Being aware of the microplastic environmental issue now is the first step in collectively solving it. Our environment matters.**



### ***For more information:***

<http://edis.ifas.ufl.edu/pdf/files/SS/SS64900.pdf>

<http://www.plasticaware.org>

<http://manoa.hawaii.edu/sealearning/grade-5-earth-science-topic-3-activity>

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