

POA Newsletter
March 2021

POWER

OF PLASTIC



Learn more about the harmful effects of plastic, the Australian government's response, how to make a bird feeder and more!

**Photos not owned*

MICROPLASTICS

BY GREGORY HANDOYO

WHAT ARE MICROPLASTICS?

Plastic is the most abundant type of debris found in the environment. Microplastics are those less than 5 mm in length. They come from a variety of sources, including larger plastics that eventually break down into smaller pieces. Since plastic is an extremely durable material, everything manufactured from plastic could potentially end up as these miniscule particles.

PRIMARY & SECONDARY MICROPLASTICS

Microplastics are categorized as either primary or secondary. Primary microplastics are small to begin with, such as microbeads that are added to personal care products. Secondary microplastics, on the other hand, start off as larger plastic items, such as plastic bags, but degrade into microplastic particles over time. (Food Standards Australia, 2019)





WHY ARE MICROPLASTICS BAD?

Since they are so tiny, microplastics enter the environment very easily. They could easily end up in the ocean and endanger aquatic ecosystems. Aquatic life could mistake microplastics for food, which could potentially cycle up the food chain and get into our stomachs. While there is not enough research to show impact of microplastics on our bodies and health, there is evidence that some chemicals can cause cancer, for example vinyl chloride in PVC or endocrine disruptors such as BPA and phthalates (DEHP).

HOW CAN WE STOP THIS?

To reduce the amount of microplastics in the ocean, we should reduce the use of single use plastic products. Instead of buying fruit wrapped in plastic or juice boxes, choose unwrapped produce where possible. Try to avoid plastic products such as coffees and bubble tea at cafes and bars too. Australians use 1 billion “disposable” coffee cups a year and millions of straws. However, the coffee cups have a plastic lining and cannot be recycled. You can help keep plastic out of the ocean. Remember: Reduce. Reuse. Recycle.

THE RACE AGAINST TIME:



SINGLE USE PLASTICS

BY SHYAM MAHENDRA

On Friday, the 1st of November 2019, the Victorian Government officially implemented the ban on lightweight plastic shopping bags on almost all retailers across the state. Since then, many acts against single-use plastics have been promised across the country. None have been taken... until Monday.

South Australia has taken a lead on the race against plastics and their first action is banning single-use plastics. From the start of the 1st of March, 2021, all single-use plastic items such as straws, cutlery, and beverage stirrers have been outlawed. In order to raise awareness of these new changes, education campaigns have been launched and are available to the public.

“We are the first state in the country to take this action and from tomorrow, plastic drinking straws, cutlery, and stirrers will be banned from sale, supply, and distribution in South Australia” (The Government of South Australia).

Single-use plastics, those that cannot be used more than once, are products that are manufactured through chemical processes. Gradually, the plastic disintegrates down into smaller pieces, commonly known as ‘microplastics’.

Concerns have been raised for people with disabilities which could complicate simple, everyday tasks such as eating and drinking using single-use plastic products. This prevents them from abiding by these new legislations. It is important to note that the legislation does not stop people from bringing their own plastic items to places such as cafes, given that businesses only supply them to those with medical needs.

However, it is problematic to abandon the use of plastic items in our modern lives. Most of our daily lives depend on the use of single-use plastics, for shopping, in cafes, and even in medical centers for syringes and drug tests.

This makes the complex issue of single-use plastics a social problem as well as an environmental problem. In a contemporary and fast-paced society, it comes down to whether or not the sudden change of implementing strategies is convenient for us.

This is where education campaigns come into play. Campaigns use their marketing principles to propose social solutions which are beneficial in influencing the mindset of individuals as well as society as a whole.





At the same time, the Victorian state has announced its own farewell to single-use plastics. Environment Minister Lily D'ambrosio announced last Saturday to phase them out by 2023.

“In many cases, these single-use plastics can be substituted with readily available, cost-effective alternatives,” she said.

This ban covers the use of single-use plastics in retail stores, restaurants, and organisations throughout Victoria. This does not impact medical centers, emergency services, or any organizations regarding health and safety conditions. Exemptions will also be put forward to aged care and disability sectors for people who require single-use plastics.

“All Victorians can play their part.”

The countdown against single-use plastics has already begun. Now the question remains, when will the remaining states follow the footsteps of South Australia?

DIY bird feeder!



Do you have some plastic bottles lying around your house? Well, don't just throw 'em away, because you can make these awesome bird feeders!

You'll need:

- Plastic bottle
- Long wooden dowels or sticks
- Box cutter and/or scissors
- String
- Some yummys for your birdies



Step 1)

Make sure your plastic bottle is well cleaned. Take off any labels or stickers and make sure there isn't any of the adhesive left on the bottle.

Using your box cutter, cut two small holes on either side of the bottle, the diameter of your wooden dowel or stick. Make sure the holes are near the lower half of the bottle.

Step 2)

Cut out 2 door-like shaped openings above the holes you made in the previous step. Your birdies should be able to reach into the bottle for some food now!





Step 3)


Make two holes near the neck of the bottle and feed your string through it. You can use this to hang it up. Now put your wooden dowel or stick through the hole you made in step 1.

Step 4)

Now all you've got to do is pour in some yummys for the birdies, and they will be having a party in no time!

Note:

- If you are using dry food, make sure there is no moisture in the bottle! You don't want the food to spoil!
- Empty and clean your feeder often!

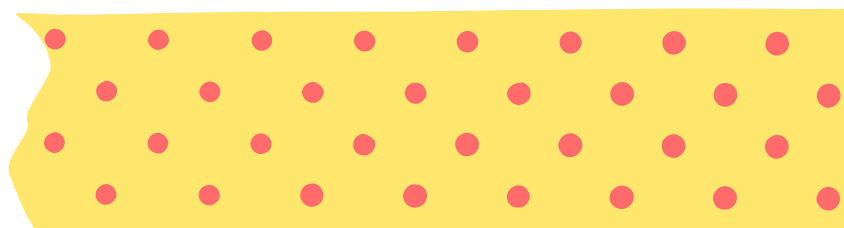



What can I feed the birds, you might ask? Birds generally eat stuff that you can find in your pantry. Make sure that you do your research about whether a particular food is compatible with their digestive systems.

Here are some suggestions for food you can feed them:

- Bird seeds or seed balls (duh!)
- Black sunflower seeds
- Plain cooked rice or pasta
- Unseasoned peanuts (make sure it isn't roasted!)
- Most nectarous fruits (take out any big seeds)
- Most veggies

If you are going to use veggies or fruits, search it up to make sure that it is safe for birds to eat.



DECIPHERING PLASTIC RECYCLING CODES

BY THOMAS MA

Have you ever seen one of those conspicuous recycling numbers on a piece of plastic and wondered what they meant?

Perhaps you immediately assumed the item was recyclable without giving it a second thought. As it turns out, there is more to these seemingly ordinary numbers than meets the eye.

As the above infographic shows, each code is used to identify the type of plastic that the item is made up of. Contrary to popular belief, this number does not indicate the number of lifetimes that remain for a particular piece of plastic.

Furthermore, not all of these plastics can be recycled in your typical curbside recycling bins. A common misconception being that any plastic bearing the symbol is recyclable. For instance, only those with identification code 1, 2 or 5 are readily recyclable whilst 3, 4 or 6 can be recycled, but only at specialised recycling facilities. Number 7 plastics cant typically be recycled as they are miscellaneous blends of various other plastics and as such can be ambiguous to recyclers.



PLASTIC RESIN IDENTIFICATION CODES



PETE

HDPE

PVC

LDPE

PP

PS

OTHER

Polyethylene
Terephthalate

High Density
Polyethylene

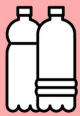
Polyvinyl
Chloride

Low Density
Polyethylene

Polypropylene

Polystyrene

Other



Recyclable

Recyclable

Recyclable
at specialist points

Recyclable
at specialist points

Recyclable

Recyclable
at specialist points

Not easily
recyclable

* Check with your local recycling program to confirm which materials are accepted in the recycling bin or at a special drop-off or collection program.

Overall, as a rule of thumb. Soft plastics should never be recycled in household bins. Soft plastics should instead be recycled at collection points like Redcycle which can often be found at supermarkets. On the other hand, hard plastics are often recyclable but always double check to ensure that they belong to categories 1, 2 or 5.

As little as 10% of all plastic produced is recycled in some places in the world. With a bit of effort, we can ensure that more plastic waste is given a second life. With just this small step, we can make the global plague of plastic pollution just that bit more manageable!

Plastic Pollution in our Oceans



Image Source: Condor Ferries

FACTS

Since 1950s, around 8.3 billion tons of plastic have been produced worldwide!

"There will be more plastic in our oceans than fish by 2050"

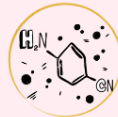
- Ellen MacArthur Foundation

Plastics: Why are they NOT the best opt?



Marine Life in Danger

Ingestion or entrapment in plastics cause the death of 100,000 marine mammals each year



Release of toxins

Production of plastic releases toxic chemicals such as vinyl chloride and ethylene dichloride.



Non-biodegradable

The accumulation of conventional plastics which are non-biodegradable has become a threat to the environment.



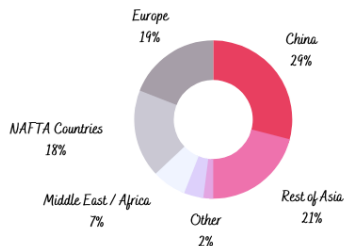
Global warming

Plastic, a petroleum product releases CO₂, when incinerated.



Image Source: Randy Olson/National Geographic

79% of plastic is sent to landfills or the ocean while only 9% is recycled and 12% incinerated.



Sources of Plastic Pollution to the Ocean

How you can contribute to make a change...



Reduce

Reduce the use of single-use plastic bags.



Reuse

Reuse cloth bags and eco-friendly bags.



Recycle

Recycle plastics and plastic products.



Sources

Information sources:

World Wide Fund for Nature. (2018). Plastic in our oceans is killing marine mammals. Retrieved from: <https://www.wwf.org.au/news/blogs/plastic-in-our-oceans-is-killing-marine-mammals#gs.wy518h>

Hart, M., Bryce, E. (2020). How does plastic pollution affect the ocean? Retrieved from: <https://chinadialogueocean.net/14200-how-does-plastic-pollution-affect-the-ocean/>

IUCN. Marine Plastics. Retrieved from: <https://www.iucn.org/resources/issues-briefs/marine-plastics>

Made Safe. (2016). How to avoid toxic chemicals in plastics. Retrieved from: <https://www.madesafe.org/avoid-toxic-chemicals-plastics/>

Graph source:

Condor Ferries. Shocking Ocean Plastic Statistics: The Threat to Marine life, The Ocean & Humanity. (2021). Retrieved from <https://www.condorferries.co.uk/plastic-in-the-ocean-statistics>

How Well Do You Know Recycling and Our Oceans?

TRY OUT THESE QUIZZES!

How much do you know about the threats that our oceans and the marine creatures that call them home face from plastic pollution?

OCEANS AND PLASTIC POLLUTION

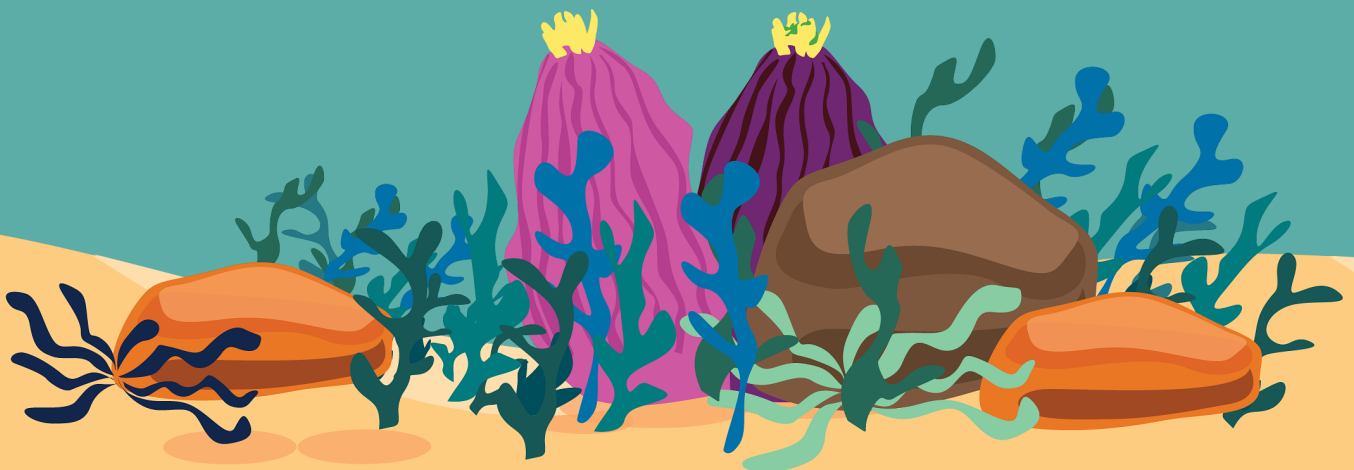
<https://www.earthday.org/oceans-and-plastic-pollution-quiz/>

HOW GOOD IS YOUR RECYCLING KNOWLEDGE

https://www.buzzfeed.com/poa_students/how-good-is-your-recycling-knowledge-7snfvdkes1

PLASTIC OCEAN PROBLEMS

<https://www.amexessentials.com/quiz-ocean-plastic-waste-earth-day/>



Thanks to:

Editors

- Anureet Kaur
- Lydia Duan
- Shruthi Mahendra

Newsletter Designers

- Danna Lei Pabayo
- Shruthi Mahendra
- Anureet Kaur

Visual Designs

- Saanvi Arcot
- Malavika Harish
- Shruthi Mahendra

Writers

- Thomas Ma
- Shyam Mahendra
- Malavika Harish
- Gregory Handoyo

POA Media Captains

- Oviya Ponkathirvarathan
- Muntaka Naoar

POA General Captains

- Lisa Liu
- Vibha Srinivasan