



**Left**<sup>TM</sup>

**Green Challenge**

**Summer 2018**

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# What is the Green Challenge?

**An 8-week challenge,  
split into four, 2-week  
sections:**

**June 18 - 29:**  
Reducing Our Carbon  
Footprints

**July 2 - 13:**  
Reduce Single-Use  
Plastics & Waste

**July 16 - 27:**  
Supporting Local

**July 30 - August 10:**  
Going “Meat-free” or  
Eating Humane Meats  
& Sustainable Seafood

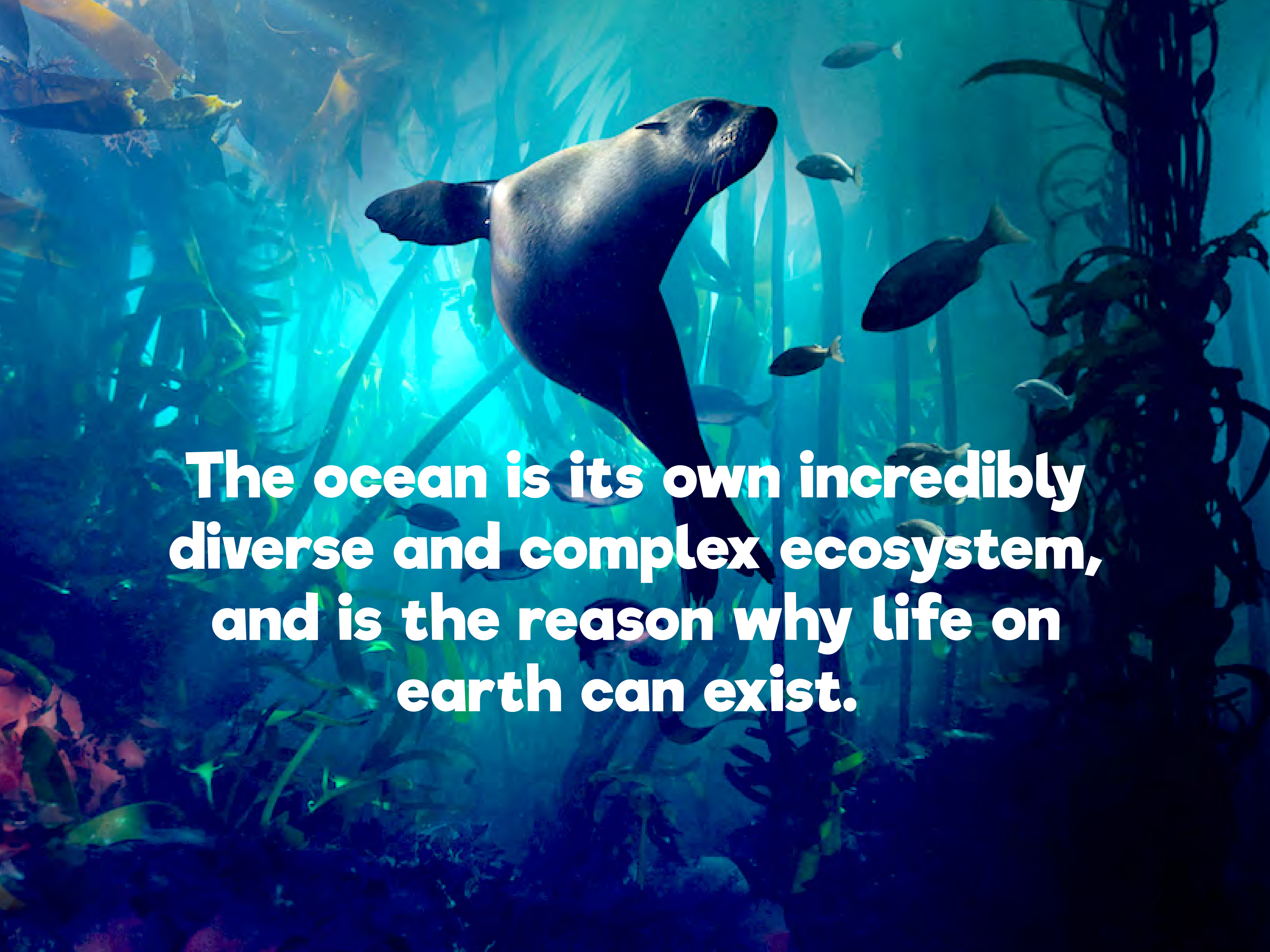


**July 2 - 13:**

# **The Ocean & Single-use Plastics**

**Let's dive in**



A photograph of a seal swimming in a kelp forest. The seal is the central focus, swimming towards the right. The water is a deep blue, and the kelp stalks and leaves are visible in the background. Several small fish are swimming around the seal. The overall scene is underwater and serene.


**The ocean is its own incredibly diverse and complex ecosystem, and is the reason why life on earth can exist.**

**We know more about  
deep space than we  
do about the deepest  
parts of the ocean.**



**It is estimated that  
there are 1.5 species  
yet to be discovered  
and classified  
in the ocean.**





**Over half of all  
life on earth lives  
in the oceans.**



# Plastic problems



**800 million tonnes of plastic  
enter the ocean each year.**

**Recent studies have shown that a huge amount of plastic has made its way to the deepest ocean trenches.**



An aerial photograph of a large, clear plastic bag floating in the middle of the ocean. The bag is surrounded by various pieces of marine debris, including seaweed, small plastic fragments, and other floating trash. The water is a deep blue color, and the overall scene illustrates the persistence of plastic waste in the marine environment.

**Plastic doesn't go away.  
It is designed to be durable  
and lasting.**

A wide-angle photograph of a beach littered with plastic waste. The foreground is dominated by a large pile of discarded white plastic bottles, some with blue and green caps. The beach extends into the distance, with waves breaking on the shore under a clear, bright sky. The overall scene conveys a message of environmental pollution.

**Only 9% of the plastic produced worldwide gets recycled.**



**By 2050, there will be more plastic in the ocean than fish.**

**The majority flows from 10 rivers  
in populated areas in Africa and Asia.**



**But that doesn't mean we're innocent...  
Litter and improperly disposed waste enters  
the ocean from every coastal country.**

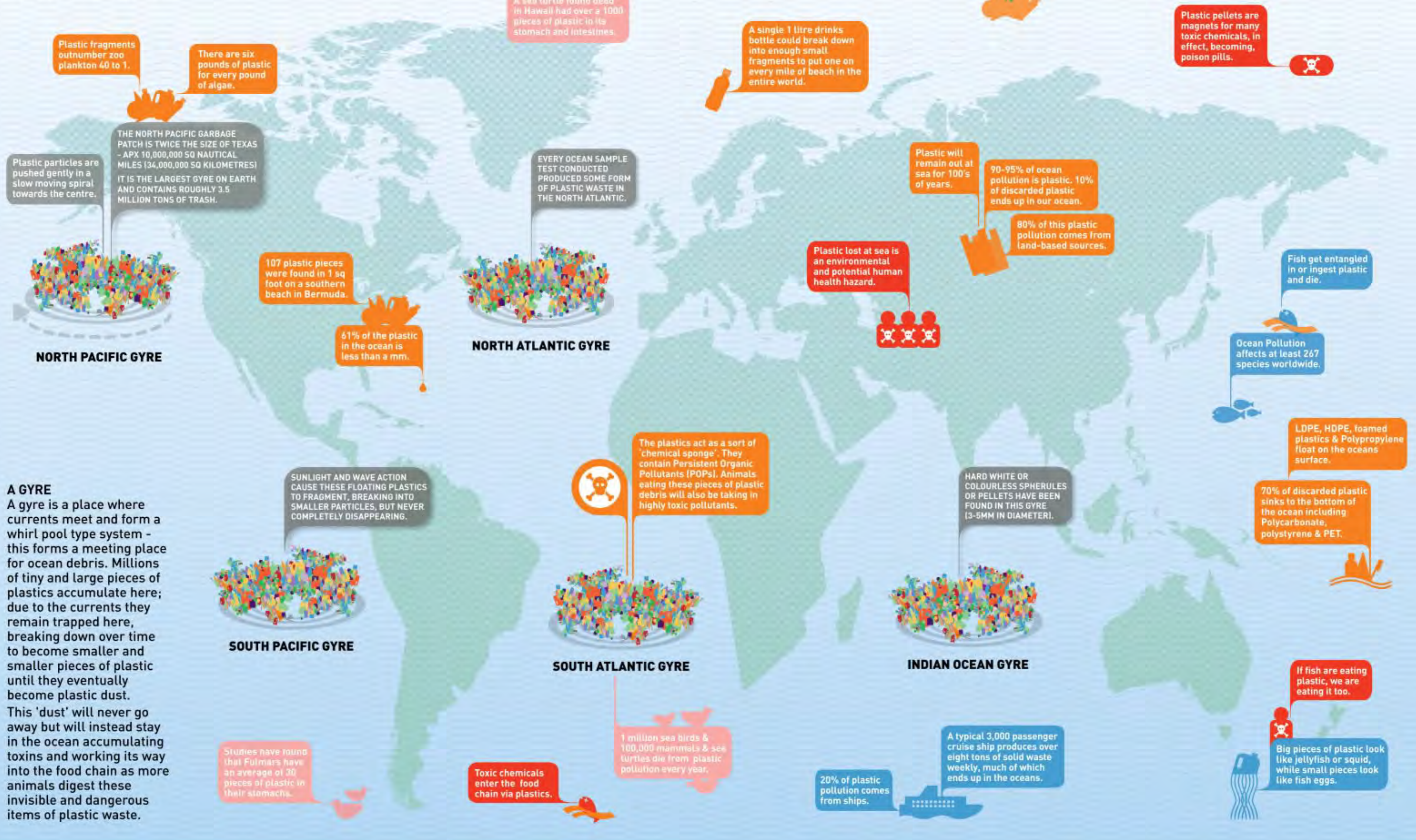




# THE FIVE GYRES

ALTHOUGH NOT WIDELY DISCUSSED THERE ARE IN FACT 5 MAIN GYRES IN THE WORLD'S OCEANS AND SEVERAL SMALLER GYRES THROUGHOUT ALASKA AND ANTARCTICA. THE MOST COMMONLY DISCUSSED GYRE IS THE NORTH PACIFIC GYRE, KNOWN AS THE GARBAGE PATCH DUE TO THE MASS OF MARINE DEBRIS THAT HAS COLLECTED THERE.

- COLOUR KEY
- FISH LIFE
  - MARINE LIFE
  - PLASTIC
  - FOOD CHAIN
  - OCEAN HITCHHIKERS



Plastic fragments outnumber zoo plankton 40 to 1.

There are six pounds of plastic for every pound of algae.

THE NORTH PACIFIC GARBAGE PATCH IS TWICE THE SIZE OF TEXAS - APX 10,000,000 SQ NAUTICAL MILES (34,000,000 SQ KILOMETRES) IT IS THE LARGEST GYRE ON EARTH AND CONTAINS ROUGHLY 3.5 MILLION TONS OF TRASH.

Plastic particles are pushed gently in a slow moving spiral towards the centre.

**NORTH PACIFIC GYRE**

**A GYRE**  
A gyre is a place where currents meet and form a whirl pool type system - this forms a meeting place for ocean debris. Millions of tiny and large pieces of plastics accumulate here; due to the currents they remain trapped here, breaking down over time to become smaller and smaller pieces of plastic until they eventually become plastic dust. This 'dust' will never go away but will instead stay in the ocean accumulating toxins and working its way into the food chain as more animals digest these invisible and dangerous items of plastic waste.

107 plastic pieces were found in 1 sq foot on a southern beach in Bermuda.

61% of the plastic in the ocean is less than a mm.

**NORTH ATLANTIC GYRE**

SUNLIGHT AND WAVE ACTION CAUSE THESE FLOATING PLASTICS TO FRAGMENT, BREAKING INTO SMALLER PARTICLES, BUT NEVER COMPLETELY DISAPPEARING.

**SOUTH PACIFIC GYRE**

EVERY OCEAN SAMPLE TEST CONDUCTED PRODUCED SOME FORM OF PLASTIC WASTE IN THE NORTH ATLANTIC.

**SOUTH ATLANTIC GYRE**

The plastics act as a sort of 'chemical sponge'. They contain Persistent Organic Pollutants (POPs). Animals eating these pieces of plastic debris will also be taking in highly toxic pollutants.

**INDIAN OCEAN GYRE**

20% of plastic pollution comes from ships.

A typical 3,000 passenger cruise ship produces over eight tons of solid waste weekly, much of which ends up in the oceans.

LDPE, HDPE, foamed plastics & Polypropylene float on the oceans surface.

70% of discarded plastic sinks to the bottom of the ocean including Polycarbonate, polystyrene & PET.

Jelly-fish like creatures become entangled in lengths of plastic filament, or eat the small plastic particles floating in the water.

Floating plastic transports marine life outside of their normal habitat. Once they have invaded new habitats they can become possible nuisance species.

Albatross fly huge distances to feed their young a deadly diet of plastic pellets.

A sea turtle found dead in Hawaii had over a 1000 pieces of plastic in its stomach and intestines.

A single 1 litre drinks bottle could break down into enough small fragments to put one on every mile of beach in the entire world.

Plastic pellets are magnets for many toxic chemicals, in effect, becoming, poison pills.

Plastic will remain out at sea for 100's of years.

90-95% of ocean pollution is plastic. 10% of discarded plastic ends up in our ocean.

80% of this plastic pollution comes from land-based sources.

Plastic lost at sea is an environmental and potential human health hazard.

Fish get entangled in or ingest plastic and die.

Ocean Pollution affects at least 267 species worldwide.

If fish are eating plastic, we are eating it too.

Big pieces of plastic look like jellyfish or squid, while small pieces look like fish eggs.

Studies have found that Fulmars have an average of 30 pieces of plastic in their stomachs.

Toxic chemicals enter the food chain via plastics.

1 million sea birds & 100,000 mammals & sea turtles die from plastic pollution every year.



**PLASTIC AND OTHER DEBRIS IN  
THE OCEAN KILLS MORE THAN  
1 MILLION BIRDS AND  
100,000 MAMMALS  
EVERY YEAR**

**SEA BIRDS**



**SEAL**



**DOLPHIN**



**SEA TURTLE**



**WHALE**



**SHARK**



[www.skipthestrav.com](http://www.skipthestrav.com)



**Turtles and other species  
mistake plastic for jellyfish.**



**90% of sea birds have been found with plastic in their stomachs.**

**It's not *just* animals  
being affected...**



**Plastics have entered  
our own food chain.**



# WHAT GOES IN THE OCEAN GOES IN YOU.

RECENT STUDIES ESTIMATE THAT FISH OFF THE WEST COAST INGEST  
OVER 12,000 TONS OF PLASTIC A YEAR. FIND OUT HOW YOU CAN HELP  
TURN THE TIDE ON PLASTIC POLLUTION AT [WWW.SURFRIDER.ORG/RAP](http://WWW.SURFRIDER.ORG/RAP)

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**75% of fish we consume  
have ingested plastic.**

**What is being done  
on a global scale?**

# Organizations & NGOs creating awareness and cleaning up the oceans

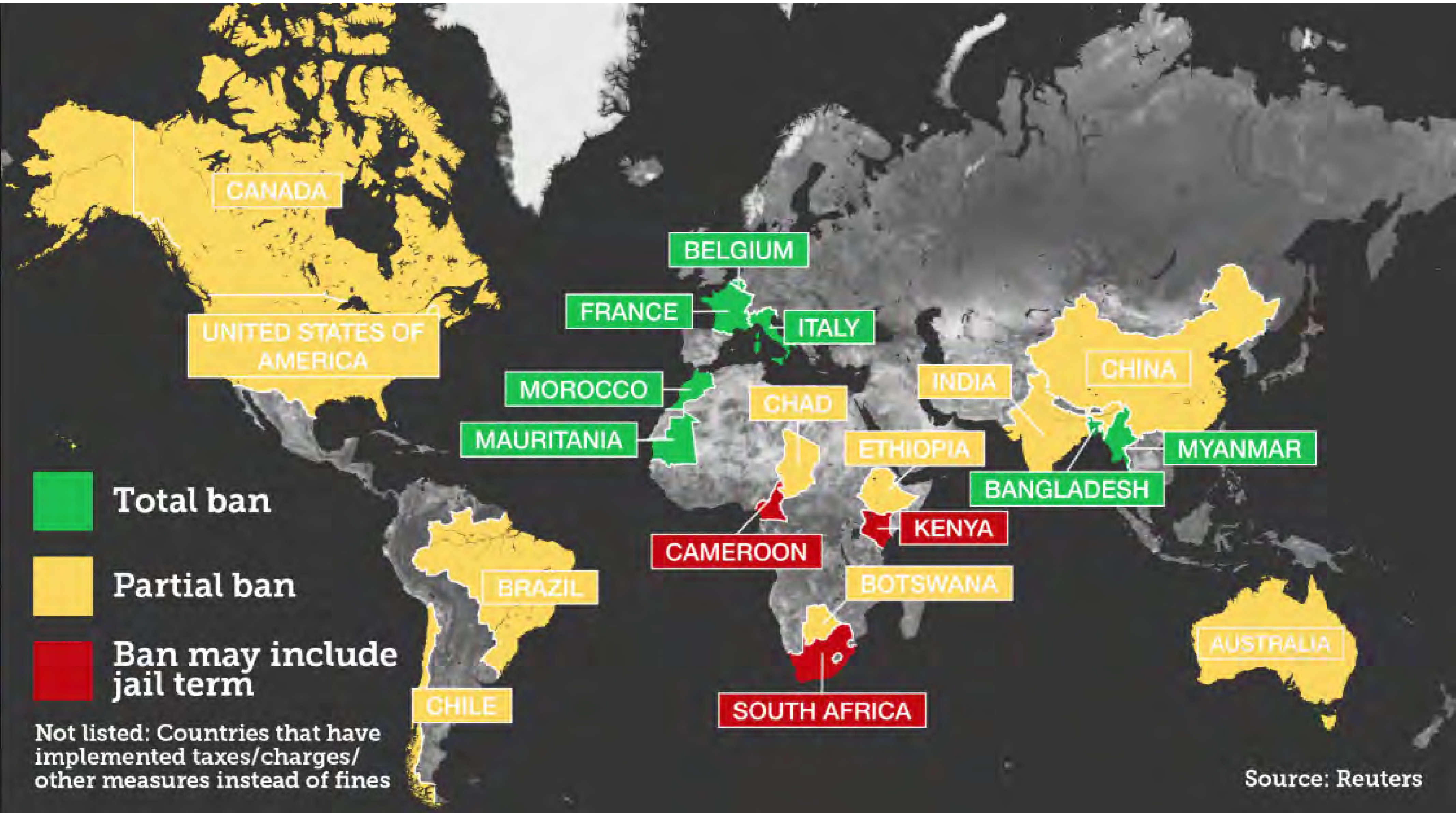


**+ many more...**



\*Denotes levy on plastic bags.

+Although a nationwide ban does not exist, some jurisdictions have banned plastic bags.



Source: Reuters



**UNITED STATES**

In 2016, **California** became the first state to ban plastic bags.

Residents of **Buenos Aires** must bring their own bags to the grocery store.

**ARGENTINA**

**UNITED KINGDOM**

A 5 pence (roughly 7 cents in U.S. dollars) charge for plastic bags in stores has led to an 80 percent decrease in usage since 2015.

**KENYA**

Anyone making, selling, or importing plastic bags could be fined \$19,000-\$38,000, or be sentenced to four years in jail!

**INDIA**

In 2017, the city of **New Delhi** banned all disposable plastic, including bags, cups, and cutlery.

**BANGLADESH**

A bag ban initiated in 2001 led to the rebirth of the country's jute industry to make reusable burlap bags.

**AUSTRALIA**

Aussies have been banning bags in their territories for years, and **Western Australia** is the latest to say no to plastic, making the ban official this year.

**Canada assumed G7 Presidency for 2018 and plans to push G7 countries to help deal with the ocean's plastic pollution crisis.**

**What can we do?**





# **Educate yourself and create awareness for those around you**

NGOs, non-profits and government all have a **sea** of information.

Share what you've learned with friends and family and encourage others to reduce single-use plastics.

**2**

**Go to Vancouver Aquarium's  
plastics exhibit, Vortex**

**An eye opening exhibit about  
plastics in our oceans.**

**(Worth 2 Stamps)**

**3**

## **Change your own habits and say no to single-use**

**Earn 1 stamp** each time you refuse  
the following items:

- Plastic straw
- Plastic bag
- Disposable coffee cup
- Ziplock bag
- Plastic wrap
- Plastic bottle
- Plastic cutlery



## **Invest in sustainable, reusable alternatives**

Lots of products can replace single-use plastics.

**Earn 1 stamp** for each product that you buy:

- Reusable produce bags
- Reusable food wrap
- Reusable grocery bags
- Reusable straws
- reusable snack bags
- Bamboo toothbrush
- Reusable coffee mug



# **Take action and pledge to reduce your "plastic footprint"**

Many pledges exist out there.  
CleanSeas, BePlasticWise, 5Gyres  
are just some of them.

**(Worth 1 stamp for each, but you have to convince me you mean it!)**



“

**You cannot get through a single day without having an impact on the world around you.**

**What you do makes a difference, and you have to decide what kind of difference you want to make.**

**- Jane Goodall**