The Living Blue Guide

How to live in harmony with the ocean

A COMPANION HANDBOOK TO THE FILM ***BLUE***

Dear Reader,

Welcome to the *Living Blue Guide*, your resource for Blue issues and practical ways you can sustain our ocean with small choices you make every single day, creating a healthier you and a healthier planet.

BLUE the film, tells the story about the changes that are happening to our ocean and its marine life. The film is a call to action, asking us to all become actively involved in safeguarding its future. This guide will empower you with the knowledge and tools to become an ocean guardian; whether it's by small individual actions, inspiring those around you to get active or calling on our leaders to make legislative and policy changes which will protect our oceans so wildlife can flourish once more.

The issues surrounding the ocean are in constant flux, so the *Living Blue Guide* will point you to online partners with the most current information.

We encourage you to support the organisations doing great work in the area of ocean conservation. We at *BLUE*, believe it's worth the effort. We believe our ocean deserves our respect and we urge you to get active and get Green about Blue.

Yours,
The BLUE Team
www.bluethefilm.org

Throughout the Living Blue Guide, these fish will show actions you can take as an ocean guardian to help our oceans as an individual, as part of a community and at the corporate and political level:

Think big

Think bigger

Think even bigger!

The Blue Truth: About Oceans

We owe the ocean everything

She drives climate, stabilizes temperature, provides most of our oxygen and shapes the earth's chemistry. She is our keeper: providing the fish we eat, the air we breathe, the water we drink and cleaning the atmosphere.

How have we repaid her?

By pulling fish from the sea to unsustainable levels, polluting the waterways with the onslaught of our trash, exploiting our coastlines with irresponsible developments and changing the climate by pumping fossil fuels into our atmosphere.

Our Ocean has been the guardian of life on Earth. Now it is our turn to be guardians for the Ocean.

The Blue Truth: About Plastics

Only 1% of plastic in the ocean is on the surface

Plastic pollution is the juggernaut of ocean environmental disasters.

It sweeps down sewers, stormwater drains, falls from garbage trucks or trash cans, carries in the breeze to the sea where it clogs our waterways, damages ecosystems, entangles our marine life, poisons animals and enters the food chain.

Plastics do not degrade in the marine environment. They break down into smaller and smaller pieces through UV exposure and the grinding of the waves, leaving us with an ocean of plastic soup.

Humans are polluting the seas at an alarming rate with 8 million tons of plastic being dumped in the ocean every year:

This is the equivalent of a dump truck of plastic being emptied into the ocean every minute.

The volume of plastic making its way into marine systems is growing at an exponential rate.

HOW CAN WE STOP?

WE NEED TO: REDUCE, REUSE, RECYCLE.

Plastic Bags

The best thing you can do: find alternatives to plastic.

Half of the plastic we use, is <u>used just once</u> and thrown away.

Each piece of plastic ever created still exists on the planet today...

...unless it's been incinerated, but burning plastic leads to toxic fumes.

A plastic bag has an average "working life" of 15 minutes.

Currently only 5% of single-use plastics are recycled.

And yet, plastic production rates are intensifying.

IT'S BEEN PREDICTED IN THREE DECADES THERE WILL BE MORE PLASTIC IN THE SEA THAN FISH.

Turtles and dolphins confuse plastic bags for jellyfish; plastic pellets look like floating fish eggs and kill fish; filter feeders such as lugworms and mussels gobble up microplastic particles on the seabed. Even corals are eating plastic. It has been suggested they now consume almost as much plastic as plankton.

A 60- foot sperm whale washed up dead on the beach in Germany from ingesting plastic bags which blocked its stomach.

Seabirds are particularly affected by ingesting plastic. 100% of Fleshfooted Shearwaters on Lord Howe Island, have been found to contain microplastics in their stomachs. Parents mistaking it for food, feed it to their young.

90% of all seabird species;
22% of large marine mammals;
All sea turtle species; and
A growing list of fish species have been documented with plastic in their bodies.

Understanding microplastic pollution

Primary microplastics are tiny pieces of manufactured plastic, like microbeads used in facial cleansers, cosmetics, toothpaste, detergents, polishes and medicine.

Secondary microplastics are tiny pieces of plastic derived from the breakup of larger plastic debris like bags, bottles and car tyres.

Microplastics contain **nurdles**, the small plastic resin balls used to make plastic products.

Their size means that they are often unnoticed on beaches and waterways, invisible pollution, easy to ignore but **more likely to be eaten by wildlife**.

Microplastics act like sponges sucking up toxic chemicals in the ocean.

Plastic pellets collected from Japanese coastal waters had **toxin concentrations up to a million times** those found in the surrounding seawater.

Plastic microbeads found in personal products like facial scrubs, toothpaste and bodywash wash down the drain into our oceans where they are eaten by marine life.

Support campaigns like #BanTheBead which encourage policy change to make microplastics in products illegal. Find out what products to avoid and keep up the political pressure: www.beatthemicrobead.org

MICROBEADS
FACE TO FISH

A TUBE OF FACEWASH CAN CONTAIN OVER 330,000 MICROBEADS
This means billions of plastic microbeads are flowing into our global waterways.

1,147 PERSONAL CLEANSING PRODUCTS CONTAIN MICROBEADS
1,147 personal cleansing products in the US and around the world contain micro-plastic particle abrasives (MICROBEADS), employed as exfoliant.

MICROBEADS ARE DESIGNED TO WASH DOWN THE DRAIN

1 WASTE TREATMENT
Many sewage treatment facilities **do not capture synthetic, floating particles** the size of microbeads that are only about a .5 mm in diameter.

2 SEWAGE OVERFLOW
During heavy rains, some treatment facilities let **sewage overflow go directly into our waterways.**

3 SLUDGE & FERTILIZER RUNOFF
Sewage sludge used as fertilizer, beads seep into soil, get into rivers/aquifers.

SLUDGE

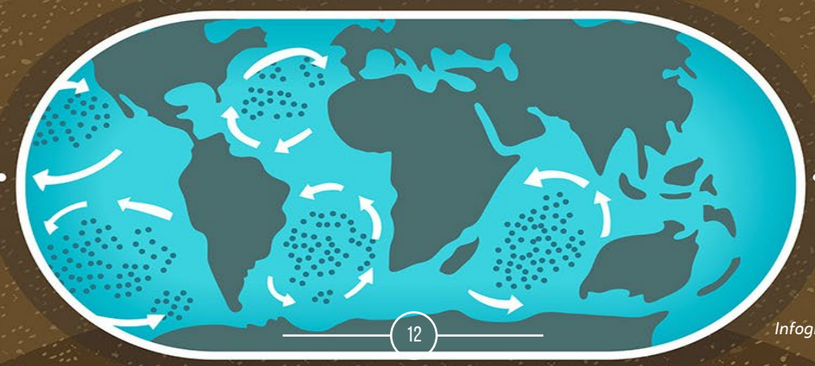
FERTILIZER

663 SPECIES OF MARINE WILDLIFE ARE AFFECTED BY PLASTIC POLLUTION
Over 663 species of marine wildlife are affected by plastic pollution through **ingestion or entanglement.** Micro-plastics particles attract other pollutants in the environment including PCBs, flame-retardants, and other industrial chemicals.

43,000 PLASTIC PARTICLES 5 Gyres found an average of **43,000 plastic particles /km2 in Lake Erie.**

A SINGLE PLASTIC PARTICLE CAN ABSORB UP TO 1,000,000 TIMES MORE TOXIC CHEMICALS THAN THE WATER AROUND IT.

Micro-plastic particles are being found in all oceanic gyres, bays, gulfs and seas worldwide.



Infographic: Greenpeace Australia

You are what you eat

As plastic breaks down, it makes its way to the very base of the food chain

Plankton, the smallest of all marine creatures, suck in water to feed and particles of polystyrene accumulate in their tissues.

Plankton, full of plastic, is then eaten by larger and larger creatures, until it's sitting on our dinner plate.

We don't understand the full impact of microplastics on marine ecosystems and the potential human health risks yet.

But early research suggests plastics can disrupt endocrine function, which may lead to cancers, birth defects, immune system suppression and developmental problems in children.

Millions of tiny synthetic fibres are released into our waterways everytime we do a load of laundry.

Buy a front loading washing machine which produces seven times less microfibers than a top loader.

Wash your clothes less frequently. Choose natural fibre clothing .

Microfibers are the largest contributor towards our plastic pollution issue.

In our oceans the microfibers absorb pollutants such as pesticides and flame retardants and are gobbled up by marine life.

Buy a filter for your machine to capture microfibers.

Why use plastic when nature has already provided the best packaging?

Plastic is made out of crude-oil.
It's a precious non-renewable resource.
We have to use it RESPONSIBLY.

Look for products that state they are 100% biodegradable and follow the correct disposal method.

If these products are not disposed of correctly or end up as litter, they might not break down at all.

The problem with many 'eco-friendly' plastic products is that, in order to biodegrade, plastics need to be placed into the end-of-life environment for which they were designed.

Be wary of the term 'Degradable'. It just means it breaks down into smaller pieces.

4% of our landfill is dog poop wrapped in plastic that doesn't biodegrade.

10 plastic items you can give up right now!

1. Coffee cups
Giving up take-out coffee cups all together is ideal, but at the very least give up the lid (and the sleeve and stir stick while you're at it). A reuseable coffee cup is the way to go.

2. Things in plastic when there's a paper option
Think eggs in a paper carton instead of ones in clamshell packaging, toilet paper wrapped in paper rather than plastic, anything in a box instead of a bag.

3. Straws
Some people may have physical issues that require the use of straws, that's fine, but for the rest of us, tilt your head back when you drink and forget about plastic! You could also try reuseable metal and glass straws.

4. Packaged produce
Select produce that doesn't come encased in plastic.

5. Plastic produce bags
Bring reuseable produce bags to the market, use paper bags, bring your own jars, or skip a bag all together and just put loose produce in your basket.

6. Plastic shopping bags
Fortunately, those planet-smothering animal-killing plastic bags are under increasing scrutiny, but there's been pushback too with some countries actually banning plastic bag bans. Reuseable shopping totes are easy, just get in the habit of using them.

7. Plastic wrap
Instead opt for glass jars, glass food containers, aluminium foil (which can be used over and over), wax paper, fabric bowl covers (think shower caps), stainless steel food containers.

8. Ziploc bags
See #7

9. Party plastic
Instead of buying plastic cups, plates and silverware for every party you have, consider investing in a "party set" of second-hand glasses, ceramic plates and silverware that you can keep in storage and bring out when entertaining.

10. Water bottles
Plastic water bottles have been the bad poster children for plastic waste for ages, but still we persists in the nonsensical practice of buying water in plastic bottles. We need to just stop! And the solution (a reuseable water bottle) couldn't be easier.

With thanks to Melissa Breyer

Want to know more? MyPlasticFreeLife.com is a blog site that gives ideas on plastic-free living.

Check out Boomerang Bags

Boomerang Bags are made from re-useable bags out of recycled materials.

They're available at supermarkets to borrow and bring back: www.boomerangbags.org

Be an Ocean Guardian: rally against plastic

Think big

Refuse all plastic straws, lids, plastic cutlery and unnecessary packaging.

Wash clothes less frequently. Choose a front loader washing machine which produces 7 times less microfibers than a top loader.

Don't litter. Keep your rubbish out of the street because drains reach the ocean.

Recycle soft plastics in REDcycle bins at your local supermarket. Soft plastics are the kind that can be scrunched up into a bag, like bread, pasta, lolly and dry cleaning bags. After they are collected they are made into furniture for schools and parks.

Be a smart recycler, download the App:
http://www.recyclesmart.com

Seek out products made out of natural materials - such as bamboo toothbrushes rather than plastic.

Choose microbead free products. Avoid labels with ‘microbeads’ or ‘polyethylene’, which means they contain plastic. Some brands and companies that do not use microplastic ingredients in their products can carry the ‘Zero Plastic Inside’ logo.

Download the free 'Beat The Microbead' app. You can scan the barcode of products at home or in the shopping aisle to see if they contain plastic microbeads: www.beatthemicrobead.org

Think bigger

Spread the word. Talk to your family and friends about why it is important to reduce plastic and the impact of plastic pollution.

Volunteer at a beach clean-up. Check out what’s happening in your area through Surfrider Foundation, Tangaroa Blue or Beach Patrol.

Get involved in Take 3 for the Sea. Pledge to pick up 3 pieces of rubbish every time you visit the water or take a pic of your haul and share online: www.take3.org

Record the trash you collect by downloading the CleanSwell App. This international app tracks the distance cleaned and weight of plastic collected.

Contributing your data gives a global snapshot of ocean trash, providing researchers and policy-makers insight to inform solutions. Take 3 also have an app you can use.

Encourage your local stores/canteens/workplace cafes to use alternative materials to plastic. By simply stating on menus “Straws available upon request”, bars and restaurants can be part of the solution.

Encourage waste-free lunch challenges at schools.

Educate your schools or community businesses not to participate in balloon releases. Balloons can travel hundreds of miles and land in rivers, creeks, and oceans. Whales, dolphins and turtles can be killed by ingesting balloons mistaken for jellyfish.

Blow bubbles not balloons at outdoor events.

Challenge your workplace to take part in plastic free July: www.plasticfreejuly.org

Join or start a Boomerang Bags community. Sew funky re-useable bags out of recycled material for the community to borrow: www.boomerangbags.org

Encourage responsible plastics manufacturers to join Operation Clean Sweep: www.opcleansweep.org.au

Write to your local council asking them to invest in water drinking fountains and refill stations.

While you're at it – ask your local council to provide compostable doggy poop bags made of water soluble PVA (Polyvinyl Alcohol) or cornstarch – rather than plastic.

Think even bigger

Join the campaign to Ban the Bag and introduce Container Deposit Schemes. Find out more via Greenpeace and The Boomerang Alliance.

Write directly to companies (eg: Johnson & Johnson, Shiseido, Procter & Gamble) who use microbeads in cosmetics, personal care and household cleaning products and ask for change.

Encourage environmental regulators to enforce laws. This will prohibit plastic manufacturers from allowing resin pellets to escape their sites.

Write to your local politicians and candidates. Ask them what they're doing to regulate wastewater treatment plants and reduce the amount of plastic entering our waterways.

The Blue Truth: What we eat

The ocean feeds almost half our population. One billion people depend on fish as their primary source of protein but the fishing industry is failing. Too many fish are being pulled from our seas. There is indiscriminate pillaging of every species, adults or juvenile, denying generations of fish a chance to have babies.

The scale of the modern fishing industry is too big. Nets large enough to haul a dozen 747 aeroplanes trawl behind factory fishing vessels, scooping up anything in their path. A huge amount of by-catch (unwanted species such as endangered sharks, turtles and dolphins) are thrown back into the sea – dying or dead.

Industrial-scale methods used to catch the fish are destroying habitats and devastating marine life. Bottom trawlers rake the sea for scallops and prawns, leaving wide swaths of seabed as desolate as deserts. Long lines, hundreds of kilometers in length and baited with thousands of hooks swing enticingly, indiscriminately ensnaring any kind of wildlife.

'Flake' sold in fish and chip shops is actually shark. Labelling shark is voluntary.

More than 80% of the World's fish stocks are already fully exploited.

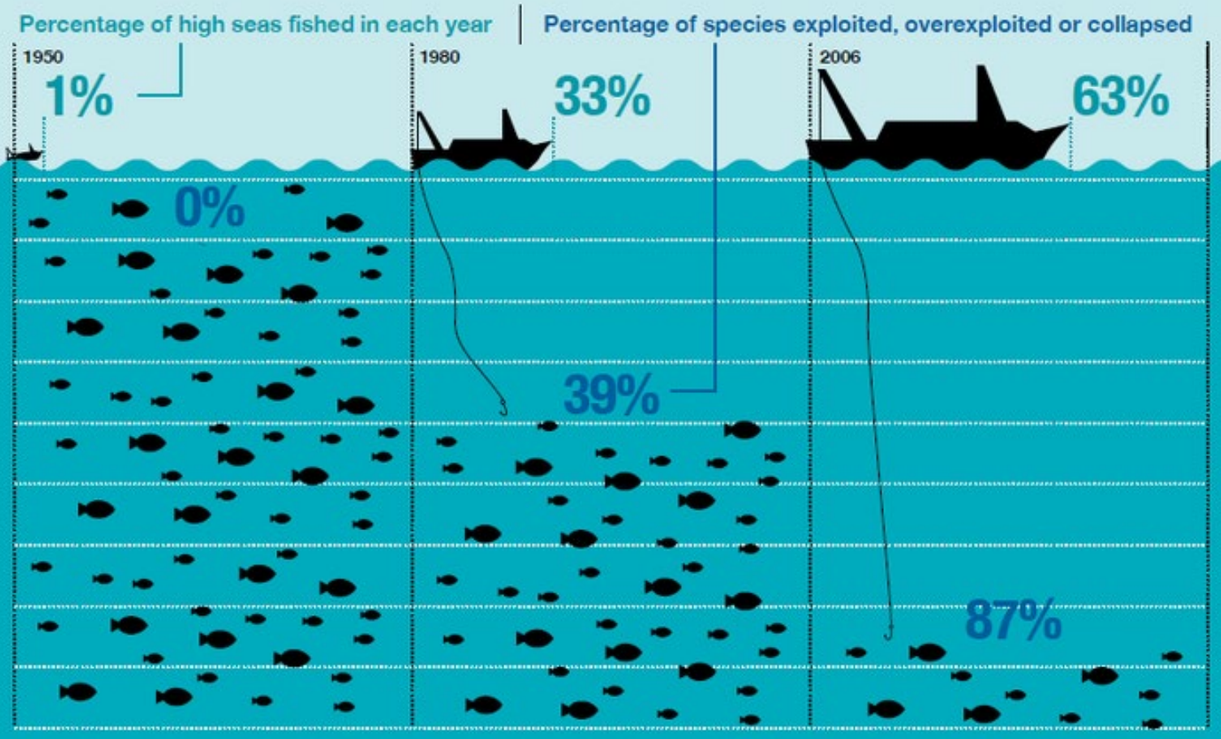
For more sustainable choices, buy fish local to your area.

The area of seabed trawled by the world's fishing fleet is 150 x the area of forests cut down *every year*.

Illegal fishing vessels are operating all over the world in prohibited territories.

Large-scale fish farms are creating 'dead zones' in our harbours and bays.

There are fewer fish in the sea than ever before.



Infographic credit: DR

40% of the global catch is discarded.

Farming fish intensively in sensitive areas can also be a problem. Waste created by some large fish farms has caused oxygen levels to drop so low that marine life in the surrounding area suffocates.

Changes can be made to improve conditions.

People who eat seafood can demand sustainable fish. Vessels can implement smart fishing practices that eliminate by-catch, waste and overfishing. Governments can reduce harmful subsidies and crack down on unregulated fishing. Smarter aquaculture practices can be enforced; switching to feeds that produce less waste, and moving fish pens on to land in closed systems that catch waste or far off-shore away from coastal communities.

What is sustainable seafood?

‘Sustainable seafood’ is seafood that reaches our plates with minimal impact on fish populations and the marine environment.

It can be wild-caught or farmed in aquaculture.

But very few fisheries are actually certified as sustainable throughout the world.

To help make better choices, use a Sustainable Seafood Guide or download one of these free apps:

UK: **www.goodfishguide.org**

USA: **www.seafoodwatch.org**

France: **www.mrgoodfish.fr**

Australia: **www.sustainableseafood.org.au**

YOUR CANNED TUNA GUIDE

So what should I eat?

Choose small fast-growing sustainable species.

Avoid top predators, such as swordfish, sharks and tuna. These animals can accumulate unhealthy levels of mercury, but are also slow growing and reproduce less often, meaning fish are slower to have babies.

Sardines are a healthy option, readily available and sustainable, but only a fraction caught are eaten by humans. The majority are used to feed farmed fish such as tuna and salmon. Canned sardines are often imported and their sustainability is not guaranteed. The answer? Eat fresh local sardines!

If you want to eat canned tuna, look for ‘pole and line’ or ‘FAD-free’ products. Choose skipjack over yellowfin, blue eye or bluefin tuna.

The market is responding to shoppers demands so for the most up-to-date information on the best brands use Greenpeace’s Canned Tuna Guide

Know what you’re eating!

Endeavour to find out:

WHERE it is from?

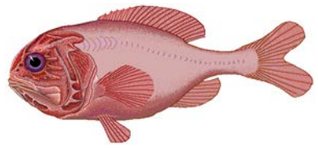
WHAT species is it?

HOW was it caught?

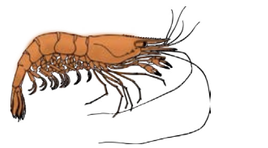
The worst fish to eat!

Bluefin Tuna – Critical endangered. ‘Farmed’ bluefin are actually juvenile tuna taken from the wild before they can reproduce. High in mercury. Also avoid **Big-Eye Tuna** which is down to the last 16% of stock.

Orange Roughy (Deep Sea Perch) – This fish can live up to 150 years and has been heavily fished off Tasmania by bottom trawlers, which destroy fragile, slow-to-recover seamounts.



Imported, farmed or wild caught prawns from Asia – Fishing is mainly unregulated. Farming contaminates coastal environments.



Sharks (flake) – Undergoing catastrophic population crashes worldwide. High in mercury.

Skate (rays) – Are caught by trawlers that rip open the sea bottom.

Swordfish and Marlin – high in mercury and populations are in collapse.

WHEN BUYING SEAFOOD LOOK FOR TERMS LIKE:
LINE CAUGHT; DIVER CAUGHT; SUSTAINABLY CAUGHT; SUSTAINABLY HARVESTED

The best fish to eat!

Barramundi – fast growing, land-based farms don’t pollute the environment. But make sure it’s from an Australian Farm. Two thirds of Barramundi sold in Australia is imported from Asia.

King George Whiting – grows and reproduces quickly. Not all species of whiting are plentiful, so check your local area.

Sardines – abundant, plankton eating schooling fish

Mullet – Caught in small volume, yellow-eye mullet is fast growing and short lived with a high reproductive rate.

Farmed Banana and Black Tiger prawns from Australia – Bred on farms and fed nutrition derived from protein from marine microbes, rather than fed wild caught fish.

Squid – fast growing, short lived, Gould’s squid reproduces quickly and squid jigging is low impact and highly targeted.

Mud crabs – Caught using pots and traps, the impacts on habitat are minimal and the industry is well regulated. Breeding females are released on capture.

In the 1960's, people ate on average 9kg of fish a year.

Now, we eat over 17kg of fish a year and that number is growing.

Be an Ocean Guardian: Support Sustainable Fishing

Think big

Reduce your consumption of seafood.

Flex your consumer muscle. Ask fishmongers, supermarket assistants and waiters for sustainable fish at stores and restaurants.

Change your eating habits. Try smaller species such as sardines or whiting instead of tuna or swordfish.

Be mindful what you feed your pets.

Think bigger

Use a Sustainable Seafood Guide. Find one for your country at: www.globalseafoodratings.org

Tell chefs and restaurateurs about the good fish project www.goodfishproject.com.au

Host a dinner party with sustainable seafood and share your knowledge of the issue.

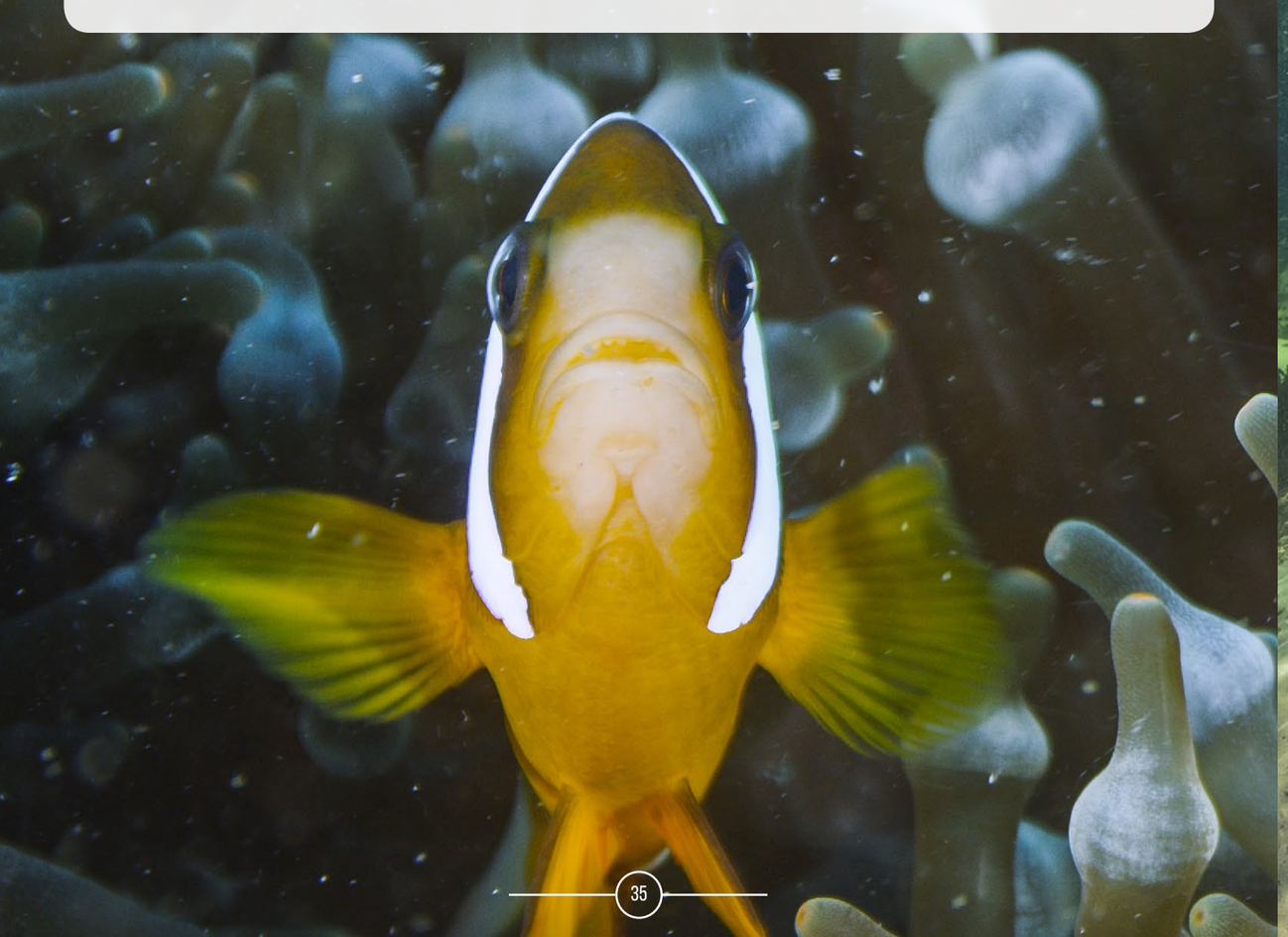
Buy direct from small scale local artisanal fishers in coastal towns.

Think even bigger

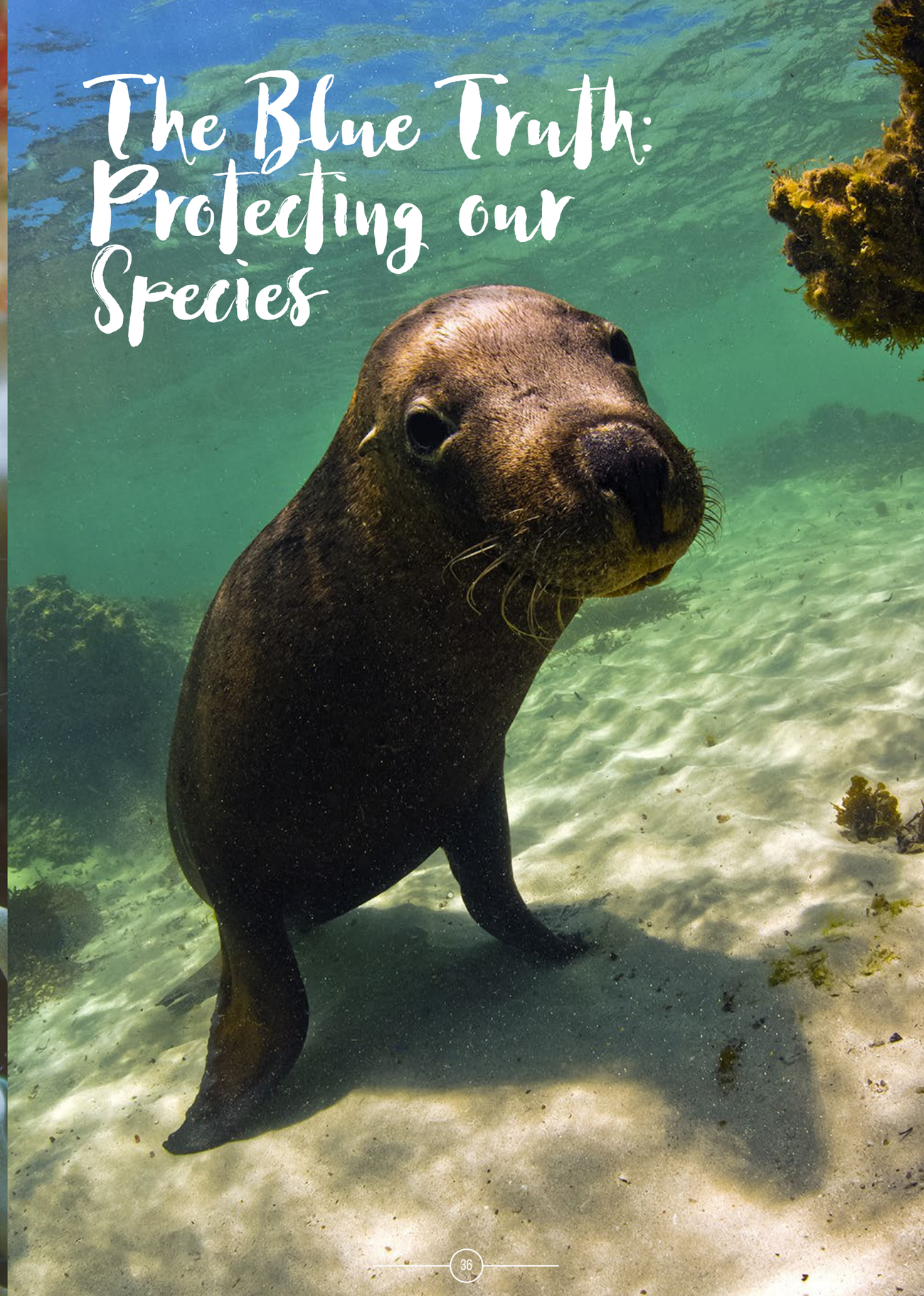
Write to your local politicians and candidates to ask what they're doing to protect our fisheries, fishing and marine life.

Tell the federal government you want accurate seafood labelling. See more at Greenpeace's website: www.labelmyfish.com.

Demand more stringent management and regulation from your Fisheries Management Authority.



The Blue Truth: Protecting our Species



In the last forty years half of all marine life has disappeared.

Human behaviour and cultural customs are putting species at risk.

Just like the Ivory trade – many species are subject to poaching and exploitation through international wildlife trade worth at least $19 billion annually.

This is a problem because species such as sharks, turtles and manta rays are in global decline and in some regions they have completely disappeared.

Sometimes this trade is close to home. Shops in our coastal towns often sell coral and dried creatures such as star fish and seahorses as seaside mementos.

Just because it appears in a shop - this does not mean it is from a legal or sustainable trade!

Gill plates from Manta Rays are sold as a health tonic claiming to 'filter toxins' from the human body just as they filter food particles from the sea.

Tortoise shell is still sold in many Pacific island communities for tourism trinkets.

The curio trade is responsible for the death of millions of creatures.

Live shark finning (where sharks have their fins sliced off and are left to lie on the seabed) is still rampant in parts of the world.

10 people a year are killed by sharks, but 3 sharks are killed every second by humans

One third of the world's open ocean sharks and rays are threatened with extinction. And still, sharks are being demonized, governments are killing sharks in nets and with drum lines, even though there are more humane methods of protecting people.

Shark fin soup is a delicacy in some Asian countries, ordered at restaurants to mark special occasions. It symbolises wealth because it is rare.

But shark fin is simply cartilage, it doesn't taste like anything, it is the other herbs and spices in the soup which create the taste.

Say no to shark fin soup!

Shark cartilage supplements, sold in our pharmacies, are putting pressure on shark species with no medical validity.

Hyped as a cancer preventive and joint-health supplement, scientific evidence to date supports neither the efficacy of crude cartilage extracts nor the ability of effective components to reach and eradicate cancer cells.

Let's FINish the FIN trade.

Who cares about sharks?

You should! As top predators, sharks play a crucial role in maintaining the balance in marine ecosystems. It's been proven that removing sharks from the ecosystem results in the loss of other fish species – such as tuna - down the food chain. A healthy ocean has sharks!

Species are also disappearing because of the destruction of marine habitats through pollution and coastal development.

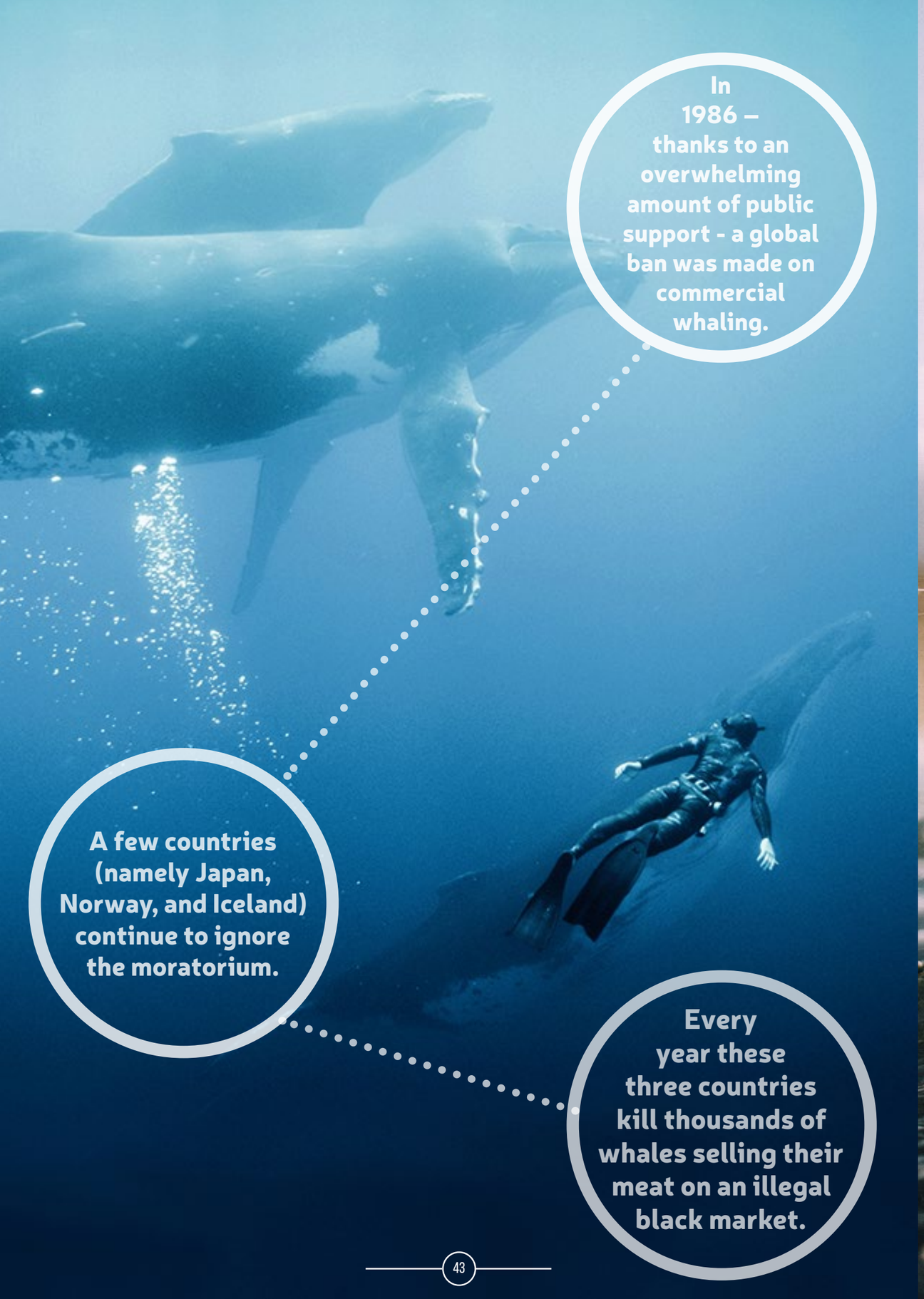
Up to 20% of the planet's mangrove cover was lost between 1980 and 2005.

Seagrass has declined by 30% globally over the last century.

Nearly every species of sea turtle is listed as endangered.

We are finding sea turtles with a cocktail of industrial compounds in their blood: the chemicals we use as flame retardants, for cleaning, washing, and waterproofing.

Water quality has deteriorated everywhere. Toxic chemicals find their way into waterways; down drains from industry and down rivers we find fertilizers and contaminated topsoil from agriculture. Dredging the seafloor releases toxins from the sediment.



In 1986 – thanks to an overwhelming amount of public support - a global ban was made on commercial whaling.

A few countries (namely Japan, Norway, and Iceland) continue to ignore the moratorium.

Every year these three countries kill thousands of whales selling their meat on an illegal black market.

Be an Ocean Guardian: Protecting Our Species

Think big

Avoid pouring toxic chemicals down the sink. Look for green alternatives to the chemicals you use. Take hazardous waste such as paint, pesticides, and antifreeze to a hazardous waste site.

Never buy marine trinkets made of turtle shell or coral. Coral is not a plant or rock, it's an animal.

Spread the message on the internet. Share posts from conservation groups who are saving species.

Donate to organisations that are working to stop the wildlife trade in endangered marine species, such as Wild Aid, World Animal Protection and WWF.

Don't patronise restaurants that serve threatened species. If you live near a restaurant that serves shark fin soup, talk to the owner about removing shark fin soup from the menu. Download information cards from the Humane Society to hand to the owner/manager: www.hsi.org/issues/shark_finning/tips/help_stop_shark_finning.html

Sign a petition to end the shark cull www.saveoursharks.com.au

Think bigger

Report crimes. Take a photo, pinning the exact location of an incident and send these important details to TRAFFIC.

Volunteer for a marine conservation project in an exotic location such as the islands of Fiji, Mexico, Thailand and the Seychelles. Check out Volunteer organisations such as GVI.

Take part in citizen science, take identifying photographs of:
Grey Nurse Sharks for www.spotashark.com
Manta Rays for www.mantamatcher.org
Seahorses for www.projectseahorse.org

Think even bigger

Call on your MP to help introduce a ban on the sale of shark fins in your country.

And while you're at it... ask them to introduce humane methods to safeguard beaches, rather than shark culls and drumlines.

If you see any of the typical "man bitten by shark" news items on TV or the internet, contact the website/TV station and ask them to produce a news item about the shark cull.

Write a letter, or send a picture or poem, to the Icelandic, Norwegian and Japanese Ambassadors in your country asking them to please stop whaling.

The Blue Truth: Marine Parks

Marine Parks are Magical Places

Like an underwater nirvana, fish thrive, the water is clean and habitats flourish. The pristine 'blue parks' are a safe haven, giving vulnerable species like turtles and dugongs a chance to recover while all other species of fish happily breed and replenish. This veritable ocean wonderland leads to more fish and bigger fish all over the world, benefitting the global community.

Approximately only 5% of the ocean surface is classified as Marine Park despite scientists believing 30% is necessary.

Marine protected areas of the world (MPA)
Credit: Ocean Elders

The level of protection in these marine parks differs, some allow seabed mining and most allow some degree of fishing.

Green zones where sea creatures and their homes are protected from extractive industries, such as fishing and oil and gas exploration, are vital for ocean health.

We have national parks on land. It's time our ocean and marine life receive the same respect.

It is proven that sanctuary zones encourage recovery of marine life. Coral Trout numbers increased by 60% in two years after the sanctuary zones were expanded on the Great Barrier Reef in 2004.

A network of global marine parks would reduce stress on marine ecosystems and allow the whole of the ocean to bounce back.

Like green lungs, these sanctuaries filter pollutants and act as a breeding ground for marine life stretching across the world.

They enable the ocean to cope with the pressures already facing her, like insurance policies for damage that has occurred and will occur in other parts of her waters, creating a healthier ocean and a healthier planet.

Be an Ocean Guardian: Support Marine Parks

Think big

Understand and promote the necessity of marine parks. Holiday at marine parks and support eco-tourism operators.

Vote for leaders who prioritise nature.

Think bigger

Educate your community on the impact of unsustainable development, such as port expansion, dredging, agricultural run off and destruction of mangrove forests in coastal areas.

Support Marine Park movement by signing petitions.

Volunteer to be a community activist www.greenpeace.org

If you're a scuba diver, get involved with Project Aware which links divers with conservation projects in their area.

Think even bigger

Write to your local politicians and candidates to ask what are they doing to support Marine Sanctuaries.

The Blue Truth: Climate change

The ocean produces half the oxygen we breathe and absorbs vast amounts of carbon dioxide and excess heat from the atmosphere.

Oceans are becoming warmer, sea levels are rising and the increase in carbon dioxide has started a process of acidification in our ocean. The blue truth is, that by absorbing carbon dioxide and heat to protect us, the ocean is destroying itself.

For decades, the ocean has been acting as a buffer, soaking in the carbon dioxide dumped into the atmosphere by burning fossil fuels. It has absorbed most of the extra heat produced by elevated atmospheric carbon dioxide levels.

Ocean heat not only determines sea surface temperature, but also affects sea level and currents. It affects flooding, which becomes more frequent as sea levels rise.

Antarctic Krill populations have dropped by over 80% since the 1970s because there is less ice than there once was. Krill need ice for shelter plus it harbours the algae they eat.

The alkalinity of the ocean is vital in maintaining the delicate balance needed for animals to make protective shells. Corals could also be affected, since their skeletons are made of the same shell-like material.

What is blue carbon?

Blue carbon is carbon captured by oceans and coastal ecosystems. Ocean plants take in carbon dioxide and give off oxygen, just like land plants, but they are even more effective. Ocean vegetation can absorb four times more carbon than forests. Blue carbon sinks - mangroves, saltmarshes, seagrasses and estuaries - capture 1 billion metric tons of carbon every year.

The ocean plays a major role in regulating the Earth's climate.

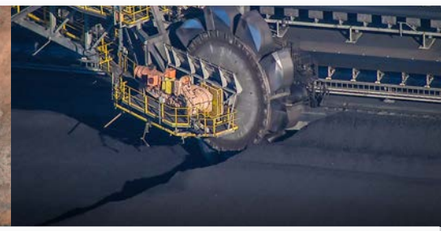
Just as climate change is affecting our land, climate change is affecting our oceans.

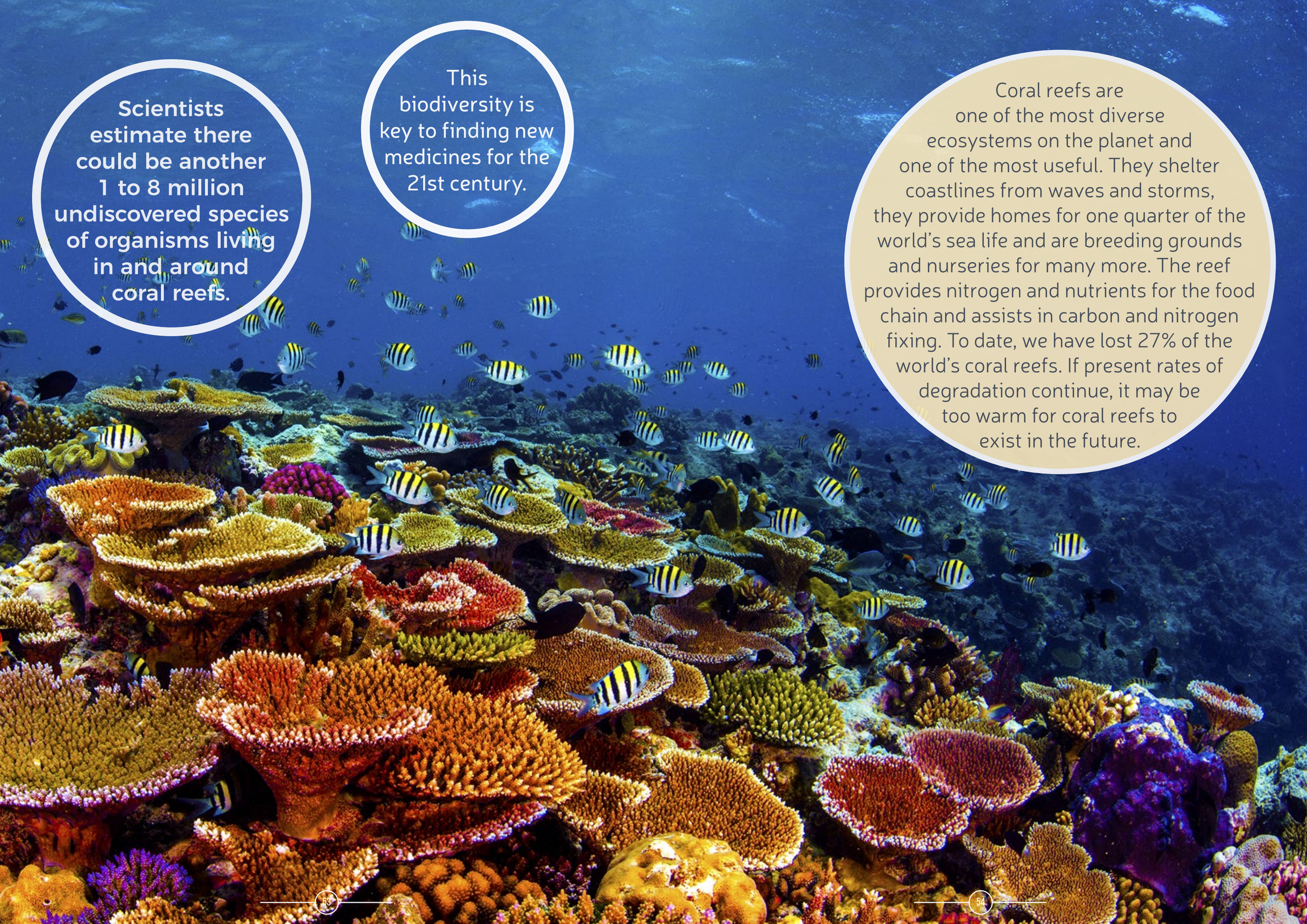
Changes in sea temperature affect habitats and the behaviour of marine life as they are forced to adapt or die.

If not for the ocean, we'd be choking on our own CO^2.

Safe level of CO^2 in the atmosphere is considered to be 350 parts per million (ppm)

In September 2016 we reached 400 ppm of CO^2 in the atmosphere.





Scientists estimate there could be another 1 to 8 million undiscovered species of organisms living in and around coral reefs.

This biodiversity is key to finding new medicines for the 21st century.

Coral reefs are one of the most diverse ecosystems on the planet and one of the most useful. They shelter coastlines from waves and storms, they provide homes for one quarter of the world's sea life and are breeding grounds and nurseries for many more. The reef provides nitrogen and nutrients for the food chain and assists in carbon and nitrogen fixing. To date, we have lost 27% of the world's coral reefs. If present rates of degradation continue, it may be too warm for coral reefs to exist in the future.

Be an Ocean Guardian:
Fight Climate Change

Think big

Choose a renewable energy provider.

Minimise your carbon footprint. You can track your footprint at: www.wwf.org.au/get-involved/change-the-way-you-live/ecological-footprint-calculator

Conserve energy. Turn off lights, radio, computers or TV when you are not in the room.

Carpool, walk, ride a bike, or take public transit.

Choose energy efficient light bulbs like LEDS.

Eat low carbon – less meat, more local, in-season produce. Avoid excess packaging and processed foods. By leaving meat off your plate, you can literally half your carbon footprint. Take the food quiz to find out how what you eat affects climate change at: www.eatlowcarbon.org

Invest your superannuation in companies who are actively finding ways to reduce their carbon emissions.

Even better, invest in green technologies and new renewable forms of energy.

Think bigger

Organise a screening of *BLUE* for your business, local council, library, school, sporting or community group www.bluethfilm.org/screenings

Get your school and workplace involved in World Ocean Day, World Environment Day and Earth Hour.

Spread the word about how blue carbon environments, such as mangroves and saltmarshes, should be preserved and treasured. Organise a clean-up day or an art or photographic competition to promote their value.

Think even bigger

Demand the government end fossil fuel subsidies. Write to politicians and candidates who represent your vote in parliament.

Campaign to keep globally significant reserves of oil, gas and coal in the ground. Object to proposed projects in marine and terrestrial wilderness areas.

Join Greenpeace in the campaign against coal: www.coalfree.org

Demand the Government does not allow unsustainable development, especially port expansion and fossil fuel projects in sensitive marine areas. **Ask the banks not to lend money to these projects.**

Organisations to join

Greenpeace is an independent campaigning organisation that uses non-violent direct action to expose global environmental problems and to force solutions which are essential to a green and peaceful future. Greenpeace's goal is to ensure the ability of the earth to nurture life in all its diversity.
www.greenpeace.org

The Australian Marine Conservation Society (AMCS) is Australia's only national charity dedicated exclusively to protecting ocean wildlife and their homes. They are an independent charity, staffed by a committed group of professional and passionate scientists, educators and advocates who have defended Australia's oceans for 50 years.
www.marineconservation.org

Global Citizen are a social action platform for a global generation that wants to solve the world's biggest challenges. On their platform you can learn about issues, take action on what matters most and join a community committed to social change.
www.globalcitizen.org

WWF is the world's leading independent conservation body. Their mission is to build a future in which people live in harmony with nature. They run a number of Global initiatives focussing on the regions and challenges where they can make the biggest difference - from the Arctic and the Amazon to responsible fishing.
www.wwf.org

Sea Shepherd is a non-profit conservation organisation whose mission is to end the destruction of habitat and slaughter of wildlife in the world's oceans in order to conserve and protect ecosystems and species. Sea Shepherd uses innovative direct-action tactics to investigate, document and take action when necessary to expose and confront illegal activities on the high seas.
www.seashepherd.org

World Animal Protection is a global animal welfare organization with 50 experience moving the world to protect animals. Their vision is a world where animals live free from suffering. They work to help governments, companies and people care for animals; in disasters, in farming, in the wild and in communities.
www.worldanimalprotection.org.au

All around the world, people are making the decision to protect our ocean. Countries, big and small, are setting aside places in the ocean dedicated to providing a refuge for marine life.

Global leaders are heeding the call. Barack Obama, authorised the creation of the largest fully protected marine sanctuary in the Pacific, in Hawaii in 2016.

The first marine park in international waters has been created. Leaders from 24 countries and the EU, brokered a deal to protect the Ross Sea, Antarctica in 2016.

Governments of Venezuela, Colombia, Ecuador, Peru and Bolivia are developing six Conservation Corridors on land and sea, stretching across international boundaries to link core protected areas.

Enterprising organisations are developing new uses for plastic; turning plastic bound for landfill into energy or recycling it into new products from fashion to building materials.

Renewable energy is no longer a pipedream. We can build an affordable, secure electrical network with 100% renewable energy, using existing technologies. If our leaders support this change, the price of electricity will actually drop.

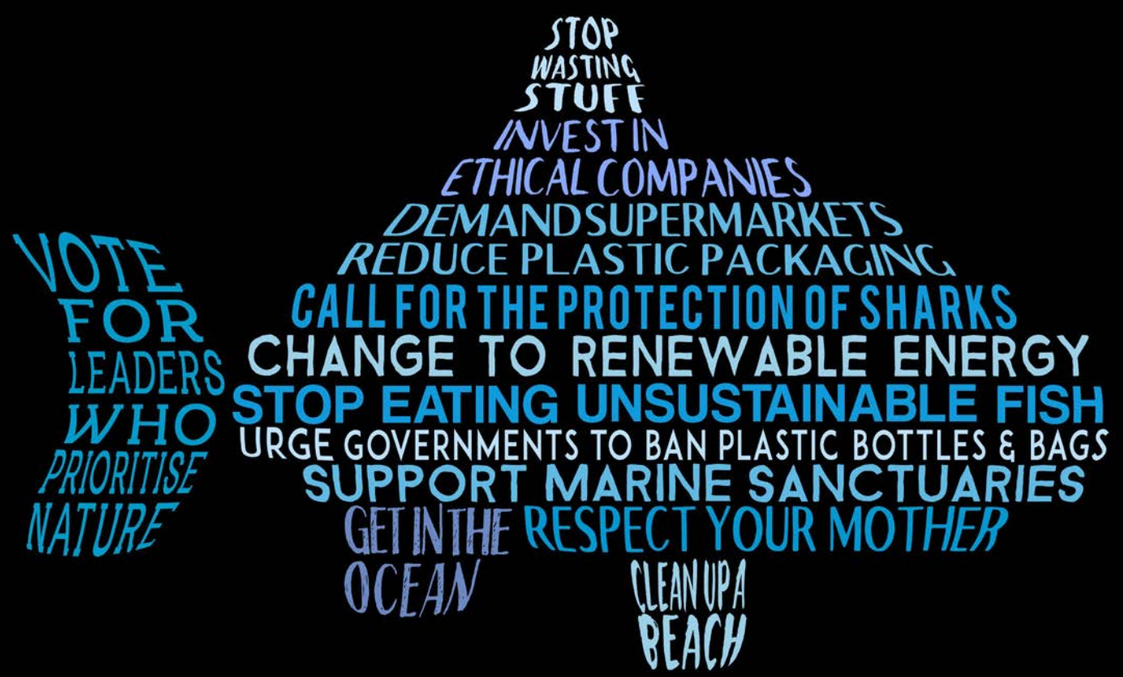
Wildlife species make a comeback when they are protected. The majority of whales are now off the endangered list. For example, Humpback Whales have rebounded from 10,000 to nearly 80,000, since commercial whaling was banned in the 1970s.

Shark sanctuaries have been established in places such as the Bahamas, Fiji, the Maldives and Palau – making millions of dollars through tourism in these countries.

New innovative methods are being used to develop sustainable aquaculture practises. Fish farms are experimenting with ideas like the 'Aquapod' which drifts behind a boat in deep water. And water recirculation systems, which are being tested at fish farms on land, so water quality can be monitored to decrease risk of disease and wastewater can be filtered, the sludge used for biogas and fertilizer.

Forward thinking retailers are producing sustainable clothing. Patagonia is using plastic bottles and shower curtains to make jackets and shorts. If you return your used-Patagonia windbreaker it will be turned into polyester chips to be melted and spun into new garments.

H&M have developed a Conscious Exclusive collection, which uses a recycled polyester made from plastic shoreline waste. Adidas has also released a line of shoes made from recycled ocean plastic.



About BLUE the film

BLUE takes viewers on a provocative journey into the ocean realm, witnessing a critical moment in time when the marine world is on a precipice.

Featuring passionate advocates for ocean preservation, *BLUE* maps the ongoing challenges facing our oceans and the opportunities for positive change.

The feature documentary had its very first screening in 2017 at the United Nations in New York at the invitation of the President of the General Assembly. Its message has gone on to reach audiences worldwide.

A beautifully crafted, powerful and deeply moving film *BLUE* has been called one of the most significant environmental films of our time.

For more information on the film and how to host your own screening, see: www.bluethefilm.org/screenings

Become an ocean guardian

It's easier than ever to get involved.

Our ocean guardian program is simple. Just sign up pledging to do what you can towards protecting the ocean and to make personal behaviour changes.

By becoming an #oceanguardian you will be joining a global movement that recognizes the ocean is in trouble and needs action.

Find out more at bluethefilm.org

Acknowledgements

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For more information and for bibliography relating to the facts in this guide, please see www.bluethefilm.org/resources

The BLUE Team

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The Living Blue Guide has been written by Tonya Alexandra Ward with contributions from Karina Holden and Sarah Beard. Design by Steph Smart.

We need many things to make
the world a better place.

But, nothing else will matter
if we fail to protect the ocean.

Our fate and the ocean's are one.