

TURNING THE TIDE

Summer 2016, Volume 17 #2

Progress on Plastics

Still Fighting for the Reef

Climate Changing our Oceans

Kimberley Ocean Legacy

So Long Super trawler!

Shark Survivor Speaks Out

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Beach Scene, aerial view. Tyre tracks cover almost every part of this coastal stretch, somewhere in Australia.

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From the **DIRECTOR**
Darren Kindleysides

ACCIDENT
and emergency

One of the most significant moments of my year happened quite by accident.

I was in Hawaii attending the World Conservation Congress - the globe's leading environmental summit. It meets every four years, involves thousands of people from many nations and has gained the reputation as being the 'Conservation Olympics'.

While navigating my way through the scores of parallel sessions, I ended up in the wrong room, in the wrong session, but at what turned out to be the right time.

Some of the world's leading marine scientists were presenting a global study on the effects of ocean warming, the most comprehensive analysis of the impacts of ocean warming ever undertaken. They had found truly staggering results.

Their report was a jaw-dropping warning. From the polar regions to the tropics, our oceans are changing fast. Entire species groups, from plankton to turtles to sea birds are shifting towards the poles, losing their breeding grounds. This is challenging their very survival. Fish stocks are being affected. Kelp forests are dying out. Coral reefs are bleaching.

Our oceans are a powerful ally in the fight against climate change - shielding us from the full extent of warming our planet would otherwise experience. An incredible 93% of the extra heat (warming) produced since the 1970s has been absorbed by our ocean, but at a huge cost to its health. As we change our climate further, we are making our oceans sick.

So now it's time to help our oceans in return.

This is nothing short of an environmental emergency which demands an emergency response.

And while some of the world's biggest polluters are confronting the climate emergency and delivering on their commitments under the Paris Agreement, Australia still has our head in the sand. Our leaders' record on this issue is politics at its worst.

Driven by global warming, 2016 witnessed the worst coral bleaching event in history which saw almost a quarter of the corals lost from our Great Barrier Reef. That's why the rolling approvals of one of the world's largest coal mines, Adani's Carmichael mine are nothing short of scandalous. It will burn a hole in our commitments to reduce emissions under the Paris Agreement and it will result in massive dredging, a mega port and hundreds more coal ships in the World Heritage listed Great Barrier Reef.

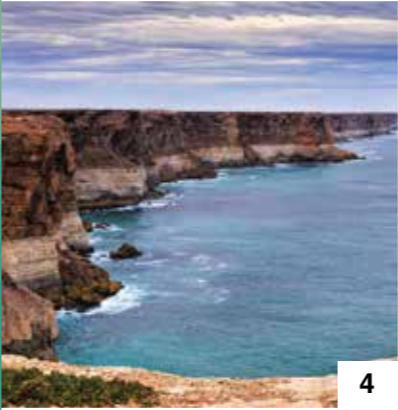
Our oceans are under more pressure than ever in human history. The scale and pace of impacts on our oceans are accelerating, and our response must too.

The implications are alarming, but make no mistake - we still have time to act before it is too late. However, as the fast-tracking of the Carmichael mine shows, the question is not whether we have the time, but whether we have the political will. Thank you for holding the line this year in defence of our oceans. Together we are a formidable force. Have a great break over summer and see you in 2017.



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Our nation was at the forefront of the global change in attitudes toward the slaughter of whales and dolphins. This all began in Albany when I was a teenager in the seventies; it unfolded in front of me, and it's had a real impact on my life and work. Cetaceans are charismatic; they have lungs and voices. Sharks too, are social, but being silent they need others to speak for them. They are now more vulnerable than dolphins and may become more threatened than whales. Their survival is bound up with our own, for a world without sharks will eventually become a world without people.

TIM WINTON, Acclaimed author and AMCS Patron

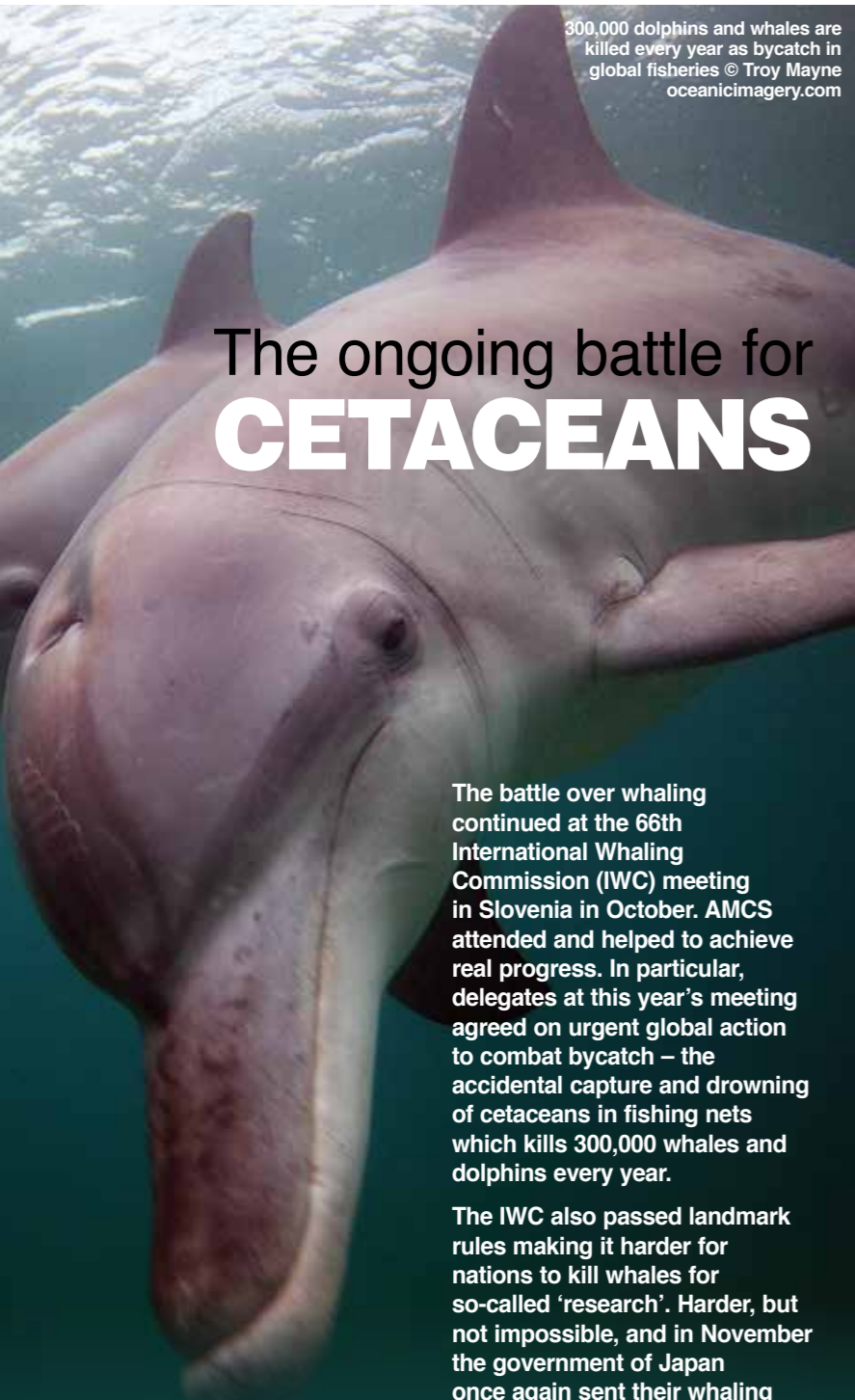
OUT OF THE

News from around our shores

BLUE



Check us out on twitter for live updates & news: @AustMarConsSoc



300,000 dolphins and whales are killed every year as bycatch in global fisheries © Troy Mayne oceanicimagery.com

The ongoing battle for **CETACEANS**

The battle over whaling continued at the 66th International Whaling Commission (IWC) meeting in Slovenia in October. AMCS attended and helped to achieve real progress. In particular, delegates at this year's meeting agreed on urgent global action to combat bycatch – the accidental capture and drowning of cetaceans in fishing nets which kills 300,000 whales and dolphins every year.

The IWC also passed landmark rules making it harder for nations to kill whales for so-called 'research'. Harder, but not impossible, and in November the government of Japan once again sent their whaling fleet to the Southern Ocean aiming to kill 333 minke whales this summer. The Australian government must stand up and challenge the whalers in our Southern Ocean.

Recognising **CHERRY**

In late 2016 Whitsundays Great Barrier Reef campaigner Cherry Muddle received the "Young Achiever of the Year" award at the Whitsunday Tourism Awards. The award was given in recognition of her critical work to bring the Whitsunday community and tourism operators to the forefront of the fight to protect our Reef from dredging and dumping and a mega coal port at Abbot Point.

The Whitsunday tourism industry nominated Cherry for the award. Cherry said, *"I was really honoured to be acknowledged by the tourism industry. We share a common passion for protecting the Reef. But this award really goes out to all the passionate volunteers who work tirelessly to protect the Reef"*.

The Whitsunday community was instrumental in implementing a ban on capital dredge spoil dumping in the Reef and restricting mega port developments to four priority ports in Queensland. Cherry has built strong alliances in the Whitsundays to become powerful messengers and advocates for protection of our Great Barrier Reef.

"We're so lucky to have this living treasure on our doorstep and we must all step up our actions to safeguard it. If not for its beauty then for our way of life that sustains us and the future generations that are yet to see it," Cherry said. Congratulations Cherry. You do us proud!



AMCS Reef Campaigner Cherry Muddle © Jeff Tan



The wild and beautiful Great Australian Bight is now free from BP's oil and gas exploration.

BP out of the Bight

BP has left the Bight! – In a huge win for the community and the environment BP has announced it will withdraw plans to drill for oil and gas in Australia's Southern ocean. AMCS is a member of the Great Australian Bight Alliance leading the charge to protect our ocean and climate from this threat. However the #fightforthebight continues to prevent BP leases being transferred and to stop other companies with leases from drilling. Thanks to all of you who have contributed to this milestone win.

IUCN

World Conservation Congress

Efforts to protect the world's oceans received a boost as the world's leading environmental summit, the IUCN World Conservation Congress, agreed international action to create marine reserves, protect whales and respond to the escalating impacts of ocean warming.

Meeting every four years, around 9,000 delegates from 1,200 member organisations attended the 2016 meeting in Hawaii. The theme of the Congress was 'Planet at the Crossroads', with recognition that the international community needs to do more, more urgently, to protect our oceans. AMCS attended helping secure critical Congress Motions advancing marine conservation.

The tide is turning on **PLASTICS**

The extent of plastic pollution grows every day, as a seemingly endless tide of plastic waste washes into our oceans. But fortunately, the tide is starting to turn on plastics, with progress being made around Australia.

In 2016 the Queensland and West Australian Governments confirmed that they will be introducing a 'litter-busting' container deposit scheme – both to be implemented in 2018. The two states are set to join South Australia, the Northern Territory and New South Wales/ACT after they introduce their scheme in 2017.

A network of collection depots and reverse vending machines will be installed in parks, beaches and other public spaces. The lagging states of Victoria and Tasmania should now follow the national trend. Precedence shows that WA and Qld should experience a drastic reduction in plastic container pollution, which accounts for over one third of the marine plastic pollution in Australian waters!

To complement this good news, Queensland will also ban single-use plastic bags in 2018! It's estimated that Queensland alone uses approximately 900 million plastic bags per year, so this move should give our marine life some reprieve!

While these policies to reduce marine plastic pollution might be 'no brainers' to some – it takes hard work and constant pressure from concerned individuals and groups nation-wide for these changes to occur! Every time you take your own bag, your own drink bottle, and your own food container you're making the difference. Every time you refuse to use single-use plastic and use a reusable and sustainable option, you're being the difference. And every time you commit to a future void of plastic pollution, you're making it a reality.

Thanks to everyone who's been part of the push. Together, we will continue to press for nation-wide removal of plastic bags, plastic bottles, and microbeads in 2017!



Shearwaters and other seabirds bear the burden of our plastic addiction.



Right now, the Australian and Queensland Governments are giving special treatment to Adani Enterprises, to build one of the largest coal mines on Earth, which will accelerate ocean warming and harm our Reef.

By Imogen Zethoven, AO,
Great Barrier Reef
Campaign Director



Thanks to you, we commissioned this mobile billboard to trawl the streets of South East Qld denouncing the Premier's special treatment of Adani.



Premier, stop special treatment for foreign billionaires like Adani and protect Reef tourism jobs for Qld families.

STOPSPECIALTREATMENT.ORG.AU

REEF update

Six months after the federal election, we have continued to witness political inertia by the Australian government to tackle global warming, the single biggest threat to our Reef. In the year that saw the most severe coral bleaching event the Reef has ever suffered, the failure of tree clearing laws to pass through the Queensland parliament, and special treatment being given to Adani to fast track Australia's biggest coal mine, we have kept your concern and love for the Reef in the forefront of the minds of our politicians and the media.

By far the most shocking news of the year was the coral bleaching event and last month we heard from scientists that two-thirds of the shallow water corals in the northern section of the Reef have died. This is heartbreaking and should have prompted an urgent and comprehensive response to slash carbon pollution. Incredibly what happened was the reverse. The Queensland Premier declared the Carmichael coal mine 'critical infrastructure', to fast-track the remaining approval and then exempted Adani from normal community notification and appeal rights.

Then, Mr Gautam Adani visited Australia, meeting the Prime Minister and travelling to Townsville with the Queensland Premier to announce Adani's regional headquarters. To cap it off, the federal government announced provisional approval for a \$1 billion loan from the Northern Australia Infrastructure Fund to help the Indian

billionaire build a rail link from the mine to Abbot Point.

Throughout this turbulent period, AMCS has always been there, standing up for you and all our supporters. We commissioned a huge billboard which trawled the streets of South East Queensland denouncing the Premier's special treatment of Adani. Many of you helped to visit your local MP's, attended huge rallies with hundreds of other passionate people in Townsville and Melbourne, phoned the Prime Minister and sent petitions. We know our governments are feeling the heat from the huge efforts all of you have put in this year.

With WWF Australia, we released a 'probation report' about our governments' inaction to tackle the biggest threats to the Reef. Released just ahead of the Australian government's report to the World Heritage Centre, our work helped shine an international spotlight on our beloved world wonder.

Gone are the days of trusting our governments to prioritise Reef and tourism job protection over the interests of the fossil fuel lobby. We must unite together and empower people to take charge and demand government action. We must encourage a greater diversity of people across the nation to speak out and take action, and we must do it quickly because our Reef is running out of time.

One thing is clear - this fight is far from over and we need to mobilise people from all over the world to win this fight once and for all. The year 2017 will not be easy, but will go down as one of the biggest battles of our time and we need you to stick with us. We are going to take action to a whole new level, so get ready. And thank you so much, for sustaining us throughout the year.

FIGHTING for the Reef

Jennifer Cooper is a marine biologist, currently working independently for a range of marine conservation NGO's. Jennifer's research has focussed on human impacts on natural ecosystems and human behaviour. She recently spoke at a community protest in Townsville on the same day that Australian Government delegates met with Adani to announce the north Queensland town as the chosen site for the headquarters of the Carmichael mega mine. We interviewed Jennifer to learn more.

Jen being interviewed in Townsville at the community protest.



Such mass bleaching events and die offs will not help to dampen or reverse this declining trend.

AMCS: Should we expect the corals to recover from that coral bleaching event?

It's hard to say what will happen. This bleaching event saw the loss of some of the big, long lived, reef building corals, which take hundreds of years to grow and will need time to recover. If we have another bleaching event like this one in the next few years then it's not looking good.

Some of the scientists who have been visiting the Reef after the bleaching have found algae covering dead coral. This is an issue because the algae cover (amongst other things) can inhibit settlement of new corals, this could lead to a system change or more plainly a great algal reef, although its not that simple and lots of other factors (such as fishing pressure and runoff) come into play. That said, not all bleached corals are dead corals and if temperatures return to normal quickly and other stressors aren't too high they can re-establish their relationship with the zooxanthellae that live in their tissues and hopefully recover, but that has to happen in a matter of days.

I don't want to seem negative, however, given the current trajectory of our carbon emissions and associated ocean warming it's going to become tougher and tougher for corals.

You recently spoke at a gathering in Townsville in response to the Carmichael mine and Abbot Point expansion? Can you tell us

about why you chose to come along and speak out?

Well, it's something I care about. I am not speaking out against anyone in particular. I am more speaking for something, for us to open our eyes, to move away from the status quo and to fight for a secure future for humanity and the natural environment.

It's true that our planet has always changed. However, we really are checking ourselves into a one way flight to an 'Easter Island' outcome.

I honestly believe we are better than this, I believe we can do better than this.

It's hard in the current economic and political climate. We need a huge overhaul and to achieve that we have to stand up and ask for it. Because I believe in our future and I would like our collective grandchildren to be proud of us, not questioning why we didn't do more.

Do you have hope for the future of our Great Barrier Reef?

I see the decline of the Barrier Reef as the canary in the climate change coal mine. We can listen to these warnings and we can make the change or we can ignore it. It's up to us really. It's likely that even if we stopped emitting all carbon now, the Reef would still change. It will still take a while to recover to be a different version of the Great Barrier Reef and in geological terms the reef is always changing. What would be really great though was if we didn't destroy it entirely.

I do have hope, because if I didn't have hope I wouldn't have anything, but hope is not enough. We need action.

Australia's fall from leadership on ocean CONSERVATION

Australia has a proud history of protecting our oceans. This leadership has crossed political divides, social priorities and economic self-interest. In 2012 we made history by creating the world's largest network of marine sanctuaries. This process was called for by the people, started under the Howard Coalition Government and finalised under the Gillard Labor Government. That momentum was brought to a crashing halt when the Abbott Government suspended the new national network, announcing a complete review. The Turnbull Government now risks Australia's reputation as a global leader in science-based ocean conservation, as it considers accepting recommendations of the review to wind back sanctuary protection.



By Fiona Maxwell,
Marine Parks
Campaign Manager

We acknowledge some positive aspects of the Review, including its reflection of scientific and community concerns by recognising the fundamental role of marine sanctuaries to protect our marine life. It also acknowledges the huge amount of community consultation that went into the development of the original network. However, it has failed to recommend zoning that is consistent with these findings, proposing huge cutbacks in vital sanctuary protections around our coast. The Review recommends:

- Removing an area of marine sanctuary protection almost twice the size of Tasmania (127,000 km2) from the overall network.
- A massive 25% cutback of the large sanctuary in the Coral Sea, the cradle to the Great Barrier Reef and home to pristine coral reefs and ocean giants like sharks, tuna and marlin.
- Demoting 18 areas from sanctuary status to lesser forms of partial protection.
- Shifting the location of a number of vital sanctuaries from the ecologically

important continental shelf to offshore areas. This looks OK on paper, as the protected areas still look sizeable, but it is not representative and does little to conserve important biodiversity.

The Review's recommendations to cut back sanctuary protection are in stark contrast to recent international moves to protect large parts of our oceans in the Ross Sea, North West Hawaiian Islands and New Zealand.

Australia still has a major opportunity to protect and secure our legacy as global ocean conservation leaders. The Turnbull Government must now reject the Abbott-era Review's recommendations to cut sanctuary protection and commit to making Australia's 40 new marine parks operational by May 2017, as promised in the 2016 Budget.

We need every bit of community pressure we can muster in 2017 to make that path clear. Thank you for your incredible support in 2016 to save our sanctuaries around Australia. Hundreds of thousands of scientists, divers, snorkelers, fishers, boaties, teachers and families around the country have made their voice heard in defence of our oceans. You are amazing!



The Kimberley's spectacular Lalang-Garram Horizontal Falls are now protected in a marine park © Jenita Enevoldsen

WA Barnett Liberal Government creating THEIR OCEAN LEGACY IN THE KIMBERLEY

The WA Government has taken yet another massive step towards the vision of a Great Kimberley Marine Park with the recent creation of the Lalang-Garram Horizontal Falls Marine Park. Other sections of the Great Kimberley Marine Park that have already been created are at Camden Sound, Roebuck Bay and Eighty Mile Beach. The North Kimberley Marine Park is expected next.

Few places on Earth rival the Kimberley's iconic limestone cliffs, remote coral reefs and rich marine and cultural heritage. In 2012, the Horizontal Falls were threatened with a copper mine. The new Lalang-Garram Horizontal Falls Marine Park rejects this mine in favour of protecting one of the world's greatest natural wonders. The new sanctuary protection over

important places like Turtle Reef, Walcott Inlet and at the Horizontal Falls themselves will help ensure that the Kimberley Coast still remains one of the world's last pristine tropical coastlines.

Congratulations to the WA Government and the Dambimangari Traditional Owners who will jointly manage the new marine park and our friends at The Kimberley – Like Nowhere Else Alliance.



BREAKING NEWS!

The Western Australian Government has just announced the creation of another new marine park in the wild and beautiful Kimberley! The new North Kimberley Marine Park extends over nearly 19,000km2, making it by far the biggest marine park in WA. It includes some of the most pristine and remote waters of the Kimberley. The announcement was supported by Balanggarra Traditional Owners who will be joint managers of part of the marine park.

This is a huge step towards the creation of a Great Kimberley Marine Park which would rival the Great Barrier Reef Marine Park in size and majesty. A big thanks to the Kimberley – Like Nowhere Else team and you, who helped generate 16,000 submissions on the draft North Kimberley Marine Park! Your support has helped to ensure the final creation of large new marine sanctuary zones that will provide protection to important places like Long Reef and Cape Londonderry.

Our active support from around Australia also called for more controls on damaging commercial fishing, like gillnetting, which entangles and drowns dugongs and dolphins. Thanks to concerns raised by Traditional Owners and tourism operators and ocean lovers around Australia, additional protection has been added which will give a big boost to wildlife and tourism. We look forward to working with you to further this protection in the future.

It's been a massive year for the Kimberley! We've seen Roebuck Bay, Horizontal Falls and the North Kimberley marine parks being added to existing parks at Camden Sound and Eighty Mile Beach. These five marine parks are massive steps forward in the vision of protecting the Kimberley Coast in a Great Kimberley Marine Park. On the adjacent land, new protected areas have been created at Eighty Mile Beach and Roebuck Bay adding to the 175,000 hectares of the Mitchell Plateau that was protected from mining in 2014.

Readers should feel proud of these gains made for our wild and wonderful oceans. We've still got some work to do next year to make sure the government finishes the job by adding icons like the Buccaneer Archipelago and Adele Island in the Great Kimberley Marine Park. Stay tuned to learn how we can keep up the pressure to protect our tropical seas in 2017.

Reprieve for our **TOP END COASTS**

The last four years of the Territory Government has seen a decline in the health of our Top End coasts and seas as unbridled industrial development has taken its toll on endangered species and vulnerable marine ecosystems. The summer of early 2016 revealed some of the most dramatic and alarming changes that we have ever experienced up here.

By NT Marine
Campaigner, Jacqui Taylor



An abnormally dry wet season and hotter than normal sea surface temperatures placed our essential marine ecosystems under extreme pressure. We witnessed unprecedented dieback of mangrove forests, loss of seagrass beds and extensive coral bleaching.

And as the pressure mounted for our coasts and seas, proposals to develop the north seemed to escalate, despite the cost to our environment, culture, lifestyle and livelihoods.

So in the face of an impending election, we worked with concerned community members to ensure that all political candidates got the message loud and clear; that Territorians care about our Top End coasts and seas. Standing alongside communities and other stakeholders we called on all parties to commit to protecting our coasts and seas in the next term of government.

This resulted in Territory Labor, the Greens and 1 Territory all committing to a coastal and marine plan, and the CLP failing to commit to such a plan. It was an incredible achievement and it could not have been achieved without our NT supporters.

Thousands of people emailed their local candidates and Territory leaders, signed postcards, attended events around Darwin, and helped with stalls and letterboxing to get the message out. We ran adverts on radio and in the NT News, commissioned a Health Check of our Top End Coasts, and secured excellent media coverage on the issues right up to the election. Our new film, Saltwater Secrets, also played a vital role to raise the awareness of our incredible coasts, the threats that they face and the communities working to protect them.

In August 2016 the Territory election saw an NT Labor government elected with a commitment to a plan to protect our incredible coasts and way of life! The NT community fully expects them to deliver on this promise.

We now need to build on this huge momentum, and ensure the new government delivers a process, funding and timeline to develop their coastal and marine strategy.

Our leaders must deal with the escalating threats to our coasts and seas. Our unique NT lifestyle is at risk, and poor decision making simply cannot continue.

NT fish **TRAWLING** under the spotlight

In our last edition we outlined some serious concerns about the rise of fish trawling in our North. Since then we have been working hard to break down the veil of secrecy around this potentially destructive fishing practice and instigate reform in the fisheries, with a focus on the Northern Territory.

Since foreign trawlers were removed from our waters in 1990 the offshore snapper fisheries have been mainly sustainable trap and line fisheries. However in recent years there has been a move to the use of trawl gear – a fishing method known to indiscriminately catch a range of non-target species which are discarded dead and dying back to the ocean.

Protected and endangered species like dolphins and sawfish are also in the firing line and the gear can damage or destroy crucial habitat like corals or sponge gardens.

Information obtained under freedom of information laws has confirmed our concerns around a lack of monitoring in the fishery and the disturbing inconsistencies between what the few observer monitored fishing trips report and what the fishers' logbooks record.

AMCS is calling for an end to the trial of trawl gear in the Timor Reef area and a comprehensive review of the fisheries. There is an urgent need for scientific research to identify sensitive habitats and the impacts of trawl gear, understand impacts on both target and non-target species and to inform sustainable catch limits.

Our work is having an impact and there have been some positive initial moves by the new NT Government to begin to address the issues. Thanks to supporters like you we were able to send fisheries scientist and sustainable seafood campaigner Josh Coates to join Northern marine campaigner Jaqueline Taylor at a recently held risk assessment workshop for the fisheries.

The workshop was incomplete and dogged by poor process, but there

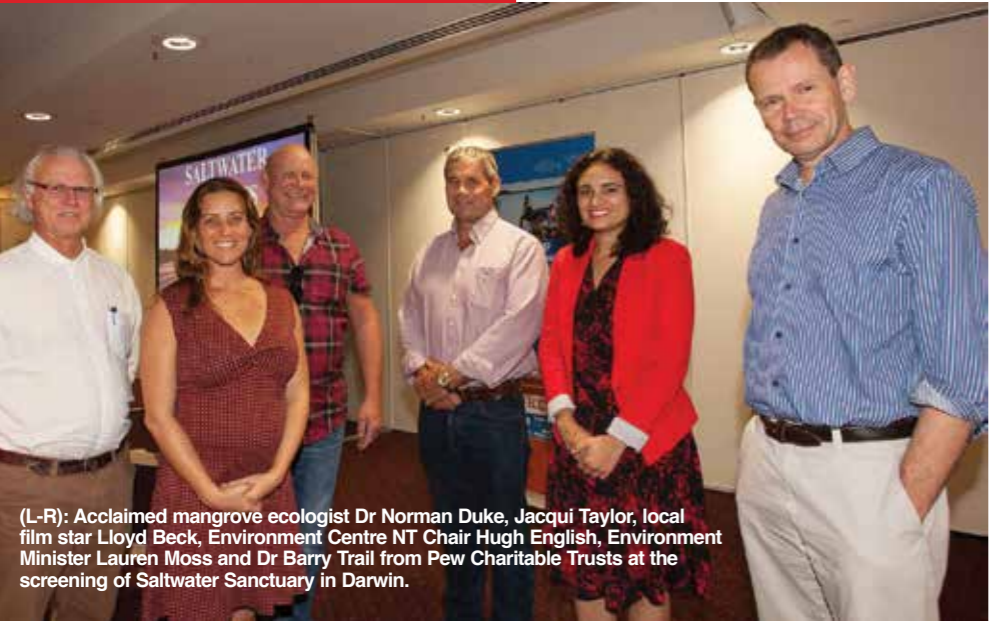
were some positives to come out of it and we achieved a better shared understanding of our concerns. We will be working hard over coming months to get the improvements in process, increased scientific research and monitoring and spatial management to protect habitats that are badly needed.

There is a long way to go to address the problems with trawling in the North and we thank you for your ongoing support. Together we are maintaining the pressure to improve our fisheries management in the oceans of the North and right around Australia.

Bottom trawling for fish is indiscriminate and damaging. This Northern trawl bycatch photo includes sponges and a mix of non-target fish species.
© Simon Allen



By Josh Coates,
Fisheries Campaigner



(L-R): Acclaimed mangrove ecologist Dr Norman Duke, Jacqui Taylor, local film star Lloyd Beck, Environment Centre NT Chair Hugh English, Environment Minister Lauren Moss and Dr Barry Trail from Pew Charitable Trusts at the screening of Saltwater Sanctuary in Darwin.

CLIMATE CHANGE in our Oceans

In my last article, I presented the physical changes that are taking place as a result of human-driven climate change. These include warming, acidification, sea level rise and increasing severe storm events. These will all have a clear and direct impact on humans; our weather, where we live, our ability to produce food and access to fresh water.



By John Turnbull

Diver with a patch of crayweed (*Phyllospora comosa*) which was found in shallow reefs along Sydney's coastline until the 1980s.

Kelp gardens, Fairy Bower Sanctuary, Sydney.

Kelp holdfasts on a rocky reef community.

Blue-striped goatfish amongst the kelp. Bare Island, Sydney.

Giant kelp in Tinderbox Sanctuary, Hobart. Scientists estimate its coverage has declined in Tasmania by 95% in 30 years from pollution, invasive species and climate change.

No doubt there are tough times ahead for humans, but we're not the only ones. Plants and animals will struggle too. Unlike us, they can't see what's coming, and they have no ability to change the outcome. Only humans can do that. Life on land and in the oceans will just have to deal with what planet earth throws at it. So how will our marine life cope?

Most marine life has a degree of mobility. Large animals can typically swim large distances. Small animals, algae and plants may spend most of their lives in one place, but they often have a life stage which is mobile. For example, algae produce spores, and corals produce larvae, which travel on the currents before settling. So, one response for our marine life is to simply move towards the poles, to cooler waters.

Yet the consequences of such a mass migration are both obvious and obscure. Most marine organisms live in a particular depth range, or require a particular substrate or habitat, and these are often already crowded. Just look closely at the intertidal zone – it's hard to find a patch of rock not occupied by something living. Organisms moving into new areas, or "range extensions", therefore will have to displace other local species. This can result in changes to

community structure with far-reaching consequences¹. Urchins replace kelp, tropical fish replace subtropical, species which are not a problem in their home range become invasive.

Organisms may also move deeper, where the water is cooler. This has some potential, but is also limited. Deeper waters are often quite different substrate; soft sediment rather than reef. Algae, which need light and rocky reef, can only go so far. Similarly, organisms which rely indirectly on photosynthesis, like most reef-building corals, have a depth limit. Other factors, such as availability of food, exposure to new predators and competition will also constrain this escape route.

Of course, life on earth has evolved since it first emerged from the primordial slime, but the rate of change is the problem. Atmospheric CO₂ levels are believed to be higher and rising faster than any time in the last 20 million years². Many organisms simply can't cope with this rate of change and if there is no-where to move to, they will simply die out.

Another major yet indirect impact is the changing availability of habitat. We are still struggling to understand

the magnitude of the tragedy of the recent coral bleaching event in northern Australia. Two thirds of the corals in the northern part of the Great Barrier Reef have died³. On some reefs in the north, nearly all the corals have died. Not only does this represent loss of millions of corals, but also will impact on the many and diverse fish and invertebrate species which rely on them. Coral provides important habitat and food for a large proportion of life on the reef – and that habitat base is now gone.

Similarly, our Great Southern Reef is changing. Spanning 71,000 square kilometres from NSW to southern WA, it comprises rocky reefs covered in a range of macroalgae including beautiful kelp forests. Like our coral reefs in the north, these sub-tropical and temperate reefs provide habitat and primary production that sustain our marine life⁴. As a cold-water species that needs nutrient-rich waters, kelp cannot withstand the increasing warm, nutrient-poor flows coming down on the East Australian and Leeuwin currents. Algal communities are retreating south, to the point where they may have no-where to go. They are also becoming increasingly tropical in their community structure⁵.

Changing marine communities and range extensions have been occurring

for some time, and the Redmap (Range Extension Database Mapping) citizen science project was created in 2009 to track them⁶. It's no coincidence that it was created by scientists in Tasmania. As the East Australian Current strengthens and warms, and the Leeuwin current on the west coast brings increasingly warmer waters south as well, our southernmost waters are coping the brunt of the tropical invaders^{7,8}.

We are all aware of the need to reduce our use of fossil fuels, but this will not be enough. We are already seeing changes in our oceans and are committed to even higher temperatures whatever we do today. But we are not without options. Scientists and managers are working hard at three levels:

- **Monitoring** – allowing us to understand what is going on, so we can respond more quickly to changes as they occur.
- **Adaptation** – if marine organisms are unable to adapt quickly enough, we may be able to intervene to assist them, for example by building resilience through a network of well-designed and managed marine sanctuaries.

- **Mitigation** – intervening to reduce CO₂ levels, for example by re-establishing macroalgae beds⁹, seagrass beds and mangrove forests as carbon sinks.

All of these strategies required resources; we are now beyond a passive approach where the ocean can just fix itself. Resources need funding, and that's where advocacy groups such as AMCS come in. It's up to us to make it clear to governments at all levels that we have one planet, covered mostly by ocean, and this has to be a priority for the future.

All photographs © John Turnbull www.marineexplorer.org

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Seals, dolphins and even a juvenile whale shark have been caught in the super trawlers' nets. This sort of industrial scale fishing doesn't belong in Australian waters.

Thousands of everyday ocean lovers, recreational fishers and tourism operators are celebrating the news that the Geelong Star Super trawler has left Australian waters and is not expected to return.



By Josh Coates, Fisheries Campaigner

SUPER TRAWLER

Geelong Star leaves Australian waters

The news came on the same day that a Senate inquiry released its report with a clear recommendation that "the Australian government ban all factory freezer mid-water trawlers from operating in the Commonwealth Small Pelagic Fishery".

What a win for the Stop the Trawler alliance members, supporters and the everyday heroes who have made this milestone possible. The Stop the Trawler Alliance is led by Environment Tasmania and consists of environment groups such as AMCS, recreational fishing bodies and clubs and tourism businesses. We have

worked for many years to protect our marine environment and fisheries from the impacts of super trawlers; staging rallies around the nation, and delivering over a hundred thousand petition signatures to governments.

As most readers will be aware the Geelong star has been dogged by the capture of protected species like seals, dolphins and even a juvenile whale shark. It has been in constant conflict with recreational fishers, tourism businesses and conservationists. This is the third super trawler that we have seen off, and the task at hand is to ensure it is the last.

Wherever you are, we hope you take the time to celebrate this milestone for our sea life and we thank you for the many actions you have taken around the country to maintain the pressure over this long campaign. We look forward to working together with ocean lovers around Australia as we embark on the final chapter - moving to ensure the Government heeds the advice of the senate committee and bans factory freezer trawlers from the small pelagic fishery.

Add your voice and email the Fisheries Minister today through our website marineconservation.org.au



South Australia's Spencer Gulf prawns have been given a Better Choice green rating.

By Josh Coates, Fisheries Campaigner

AUSTRALIA'S

Sustainable Seafood Guide



Get the seafood guide App on Android or iPhone

Australia's Sustainable Seafood Guide was created in response to public demand from people who love their seafood and their oceans. Featuring over 100 popular Australian and imported species, the Guide remains the most comprehensive independent seafood sustainability tool in Australia. It is also a living document, constantly updated as new assessments are undertaken using the latest scientific research.

Go to www.sustainableseafood.org.au to visit the website or download your mobile app today.

GLOBAL SEAFOOD RATINGS ALLIANCE OFFICIALLY FORMED

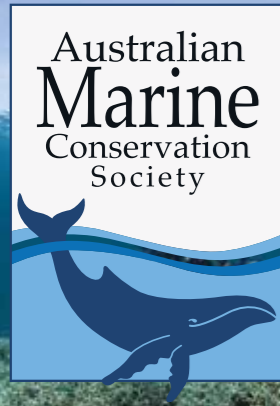
AMCS is proud to be a founding partner of the Global Seafood Ratings Alliance (GSRA). This is a new collaboration of over 11 countries who are working together to improve the effectiveness, efficiency and influence of seafood ratings organisations across the world.

With well over two thirds of the seafood we eat imported from overseas and large amounts of Australian caught and farmed fish exported, this exciting new collaboration will help us improve the range of species covered in the guide. The more people understand and demand sustainable seafood, the faster fisheries around the world will be driven to improve practices.

GREEN PRAWNS A BETTER CHOICE!

We're pleased to report that Australia's Sustainable Seafood Guide now features a new 'Better Choice' green-listed Australian prawn. Spencer Gulf Western King Prawns from South Australia hadn't previously made our green listing due to concerns about their impact on the Giant Australian Cuttlefish, which aggregates in the upper Spencer Gulf each winter to breed. When scientists and AMCS raised concerns about these impacts, the industry responded quickly – supporting research and changing their practices to help cuttlefish survival. With cuttlefish numbers recovering the prawns have now been listed 'Better Choice'.

We are pleased to be able to recognise years of work by the industry and other stakeholders to improve management and sustainability of this fishery. It is an example of best practice prawn trawling, due to its proactive management approach, open and transparent communication, contribution to scientific research, and industry-lead innovations to reduce bycatch and limit habitat impacts. Image: Spencer Gulf Prawns are a Better Choice.



Australia's Great Barrier Reef is in

TROUBLE

It has just experienced its worst coral bleaching event on record and is under ongoing pressure from farm runoff along the coast.

Scientists say we need to act now or the Great Barrier Reef will be 'terminal' in five years. Your donation today counts more than ever. It helps convince our government to switch rapidly to renewable energy and stop subsidising the dirty fossil fuels. It also helps reform land use to reduce run off dirtying the waters and feeding crown of thorns starfish. Please make an urgent tax deductible donation today to help save our global treasure.

Donation Details

Make a one-off monthly donation of:

☐ \$100 ☐ \$250 ☐ \$500 ☐ My choice \$

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☐ Yes, I would like to receive marine conservation news!

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Thank you for all that you do.



SAVING SHARKS

with shark survivor Lisa Mondy

In 2011 Lisa Mondy nearly lost her life to a 4m great white shark while she was wakeboarding at Port Stephens, NSW. Since then she has become a vocal shark conservationist. Lisa recently joined AMCS and friends at Ocean Care Day in Manly Beach to speak up against the state government's moves to deploy shark nets along the NSW coast.

Lisa told a gathered crowd about her near-death experience and why shark nets are not the answer. She speaks intelligently and sensitively about this issue, which stirs the passions of both sides of the debate.

Lisa said, “What my family and I went through, and are all still going through, is something I wish could be prevented from ever happening to anyone., but shark nets don’t undo what has been done. They don’t take the heartache away from the families and they don’t prevent further incidents.

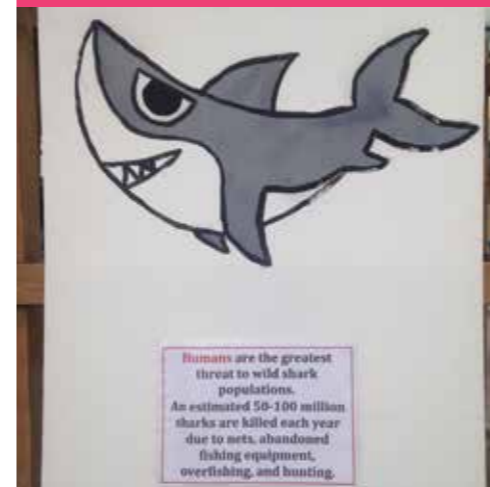
“Shark nets were designed and trialled in about 1937 with the sole purpose of killing sharks. They don’t protect the beaches, they don’t stop sharks getting to the beaches or staying at the beaches. Shark nets are clutching at straws because we don’t know what else to do,” said Lisa.

There is a common misconception that the nets are a barrier, however sharks can and do regularly swim over and around them, with research showing some 40% of sharks caught on the beach side of the nets.

Shark nets come at heavy cost to our marine ecosystems, killing a range of species indiscriminately. The Baird Government's backflip on non-lethal shark mitigation strategies in the NSW North Coast will mean up to 10 new shark nets will be deployed.

The latest NSW shark net reporting indicates that in the seven months from September 2014 to April 2015 an alarming 77% of animals captured were threatened, protected and/or non-target species. These included dolphins, turtles, manta rays and harmless shark species. Protected species including migrating whales, penguins, seals and the critically endangered grey nurse sharks are known victims of the nets, as well as the protected white shark that is one of the targets. Tragically NSW shark nets have even lead to the loss of a human life when a 15 year old boy drowned after becoming entangled in a net in 2007.

Current shark netting in both NSW and QLD is expensive, outdated and ineffective. There are more swimmers in the water than ever before and there is no statistical evidence that shark nets actually increase beach safety. The factors that are improving safety for beachgoers are public education, beach patrols, shark spotting and improved medical responses – it is in these areas that we should be focusing our taxpayer money and efforts.



SBS TV interviews shark survivor turned conservationist Lisa Mondy at Ocean Care Day, Manly, Sydney © Ingrid Neilson/AMCS



Two sharks and a mermaid speaking out against shark nets © Ingrid Neilson/AMCS

Tegan Leisegang and Rebecca Formanek are two wonderful young women who are coordinating a growing movement of volunteers in regional Queensland in defence of our Great Barrier Reef. They are dynamic and passionate volunteers studying marine biology at James Cook University and they have some pretty exciting events planned to engage locals to protect the Reef. We recently interviewed them to learn more.



Tegan Leisegang and Rebecca Formanek



Townsville Reef volunteers (L-R): Zoe Crane, Jade Sternberg, Sanna Persson and Rebecca Formanek.

VOLUNTEERING for the Reef

AMCS: What motivated you to join the fight for the Great Barrier Reef?

Tegan: I am passionate about the ocean and its marine inhabitants and believe that it is our duty as coastal people to be the voice for the Reef. I am currently doing my masters in marine biology at JCU and love being able to share the knowledge I have gained with the community.

Rebecca: The opportunity to be a part of not only a great organisation, but the chance to stand up for the environment I love the most, the Great Barrier Reef.

AMCS: Do you have any highlights to share about your time in the campaign?

Tegan: The protest against the Adani Coal mine was a great gathering. Seeing so many enthusiastic and passionate people, from different backgrounds and cultures coming together for such a cause was really something special.

Rebecca: Yes I would also highlight our most recent event; the rally against Adani this week, when he came to Townsville. I was so impressed by the community's presence and determination to stand up for what they believe in. It gave me faith we are part of a cause worth fighting for.

AMCS: Why do you think it's so important that the community gets behind you?

Tegan: Change comes from the people and to really make a difference and protect the Reef we need to be changing policy, this can only be done when we have an aware community who are behind our ideas.

Rebecca: While Townsville is on the doorstep of the Reef many locals aren't aware of the threats it faces. Strong community support can bridge this gap and start positive dialogues for change.

AMCS: What tips can you give to people who want to get more involved?

Tegan: Find out what's going on; come to community events; ask questions; listen to those with different opinions. By spreading the love for our oceans and teaching people what is currently at stake for our Reef, we can become an educated community that can make informed decisions.

Rebecca: Get talking to people! Get involved in events, check out local Facebook pages and really stay on top of things. Sometimes you have to be a nuisance, but it's worth it!

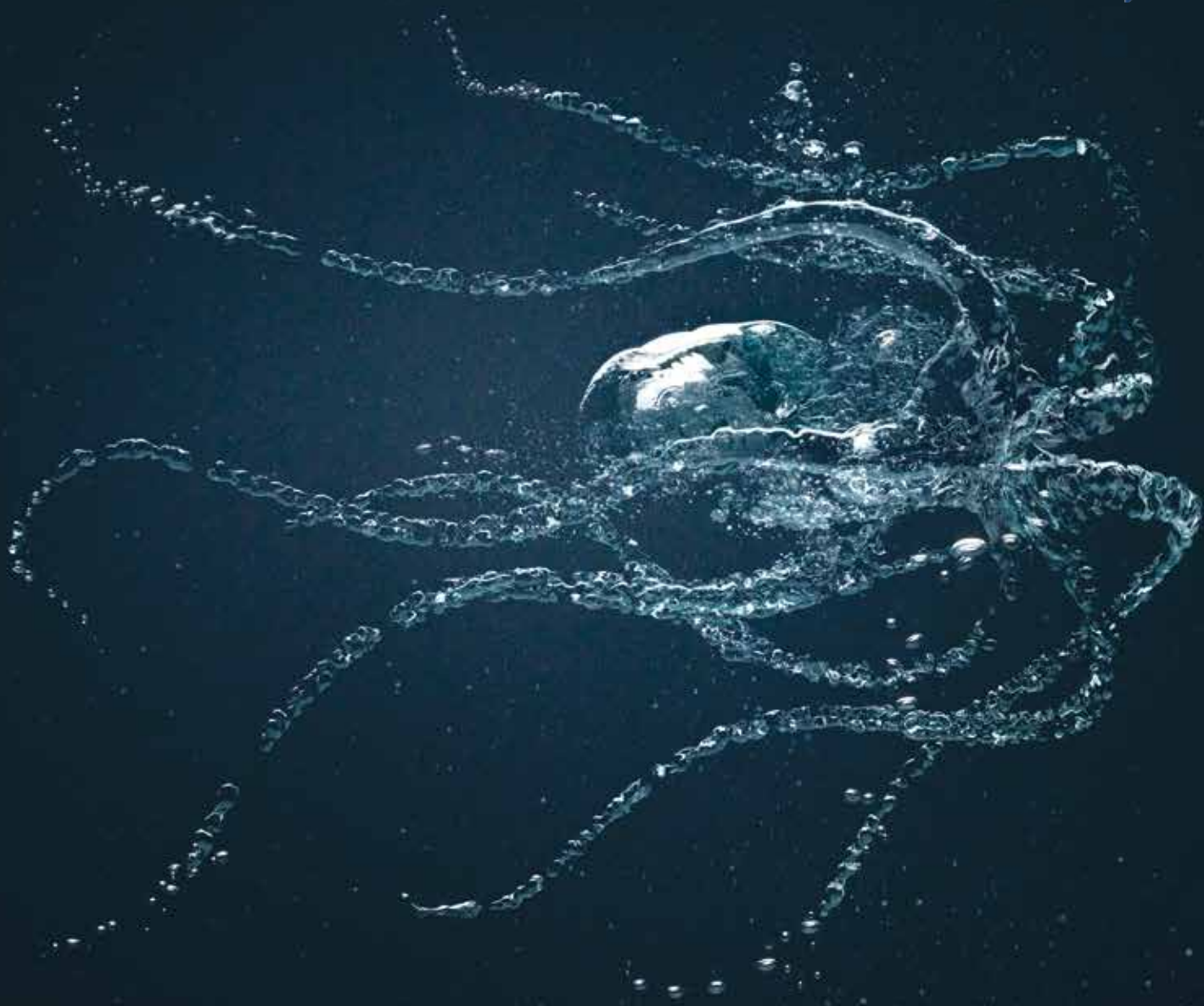
AMCS: What ideas do you have planned for protecting the Reef next year?

Both: Our main goal next year is to bring the Townsville community together and create awareness for the current threats to the reef. We are excited to reach out to more volunteers and help the environment first hand with beach clean ups and anti-plastic campaigning. We'll be doing markets to get the community on board, having a stall at the Ocean Film Festival, and we have some great Trivia nights and BBQs planned to get like-minded people connected. Later on in the year we will host a local open-air cinema along The Strand. We're hoping to work with other organisations to reach as many people to help us 'fight for the Reef'!

Devotion to our OCEANS

These delightful illustrations by Terrey Hills Public School students were part of the fun at Ocean Care Day in Sydney this year.





Our seas are fragile. So please help us
protect them while there's still time,
before all our treasures are just memories.

TIM WINTON, Author, Patron of the Australian Marine Conservation Society

Love our oceans? Join us today
seaguardsians.org.au