## MANAGEMENT OF SHARKS IN NEW SOUTH WALES WATERS

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**Date Received:** 27/10/2015

My experience as the volunteer designer for 'No Shark Cull' for the last 2 years has given me an interesting perspective. To create all the graphics I have (many of which are included in this submission to illustrate each point). I had to spend a great deal of time researching, reading articles, deciphering spreadsheets, and in being so involved in the social media side meant that I was also exposed to many differing opinions. I have to admit, the less informed opinions were leaning on the side of 'lets kill all sharks, because people are more important'. Interesting perspective, but hardly takes into consideration the delicate balance of a marine ecosystem, of which humans currently play a more destructive role. I also did a few stalls, and in that time I discovered a real lack of understanding within the public in relation to shark nets and drum lines being used in Australia. People in general are completely unaware of the massacre that is happening daily on the coast of Australia in the places they love to visit. It has left me feeling a real sense of urgency to educate, educate, educate... not only the public but all the people responding to this perceived threat, in particular the politicians. Sadly scientists and people who understand sharks and the fragility of the oceans, have largely been ignored and what has driven the 'reactions' from most politicians has been the JAWS themed newspaper articles and to be honest all forms of media, and peoples responses to them. There is hardly ever a report that doesn't include at least one of these words: attack, menacing, lurking, stalking, monster etc. and quite often all those words are used just in the headline, and the images that accompany it look like they are straight from a JAWS promo. This has fueled hysteria in the community and instead of looking at the broader picture and coming up with solutions that are logical and based on science, often the politicians have played into the hype and offered ideas that look as if we are still very much entrenched in the 1930's way of thinking. It is almost as if no-one wants to admit that the nets only offered a placebo affect in case all the fatalities and incidents on these netted beaches could be looked at differently.

Responsible reporting in relation to the 'perceived' threat should also take into consideration the huge increase in human population, in comparison to the number of shark fatalities. We are also a generation with far more time to spend in the ocean and with a great many more leisure activities that involve the ocean, on offer. With this perspective the number of shark incidents appear to have decreased, not increased. If the media will not report the truth, then it is the responsibility of current government to help keep a clear focus, rather than relying on the random claims by local fisherman that they see more sharks in the water these days. Fishermen have been known to stretch the truth a little when recounting their 'tales'.

The only way real progress will be made is if someone takes the lead, and listens to the people who can see the bigger picture. The bigger picture including what we are doing to our oceans by removing the apex predators, what we are doing to decimate populations of endangered animals that become by-catch or even worse are actually targeted (as are White Sharks), and how we are messing with the marine ecosystem leaving it vulnerable to greater stress than it is already under with pollution and micro plastics.

At the end of the day we are only causing our own decline and making a real headache for the generations to come. In the fight to make beaches safer for recreational purposes, we are in fact disrespecting the oceans that we rely on for 70% of our oxygen. I don't have children, but I worry about the state we are leaving our oceans in for those that follow. We cannot be complacent about our role as custodians of the planet... after all we do not inherit the earth from our ancestors, we borrow it from our children... the decisions we make today, will impact how many problems we leave the children of tomorrow. Let's not make it harder for them than it is already destined to be.

### Use of the word 'attack'

Researching and listening to people who understand shark behaviours, it does not take long to discover that sharks explore with their mouths and humans are definitely not on the menu. If we were, there would be 'attacks' daily, but this definitely not the case and people swim with sharks every day in the ocean without even realising it.

Using the word 'attack' is part of the reason there has been hysteria on this topic and this creates an unbalanced focus on an issue that will affect in reality a very small minority of the population. There are other tragedies, like drownings at the beach and in backyard pools, that are a lot more preventable but have most probably missed out on desperately needed funding due to the channelling of so much energy into the shark phenomena, which is at the end of the day part of interacting with nature.

The Royal Life Saving Society National Drowning Report 2013 notes an average of 297 deaths per year for people drowning over the last 10 years in Australia. During the period 2004- 2014 the Surf Life Saving National Coastal Safety Report 2014 states that 78 rock fishermen drowned over the last 10 years (an average of 7.8 per year). There were 176 diving related deaths in Australia between 2002-2009, an average of 23 per year (Provisional Report on Diving Related Fatalities in Australian Waters 2002-2009). The average fatalities from shark attacks over the last 50 years is just under one per year (0.9). This puts it all into a lot more perspective.

(https://taronga.org.au/conservation/conservation-science-research/australian-shark-attack-file/2014)

## The part 'media' plays

Media sensationalism sells papers, so perhaps it should be the media who need to be addressed in the role they play at creating an issue of backlash in relation to tourism and related industries. For too long it has been the media dictating the terms of how a government will act or 'react' which would be a more accurate term, and most people know that reacting is not always going to produce the best response to a perceived issue.

Media and some politicians (like Colin Barnett) may have helped to create a new fear in people with their JAWS style delivery and this could limit some peoples holidaying options, but why is a fear of sharks being given so much prominence? Some people fear heights and we don't stop building skyscrapers, and maybe those people avoid bungy jumping when they go on holidays... some people are afraid of the ocean but we don't empty the ocean to keep them happy, and if they are holidaying maybe they shouldn't choose an ocean cruise as their first option... so killing sharks to quell peoples fears when clearly there is a choice to just not enter the ocean, is in my opinion, ridiculous. People either learn to live with their fear, or they use it as an opportunity to learn more about the things they fear and take steps to alleviate the anxiety. This does not mean we should kill thousands of animals to the brink of extinction just so people can engage in a leisurely activity.

There would be far more people afraid to swim in the ocean if they realised the desperate ineffectiveness of the shark nets that many believe actually form a barrier. The government needs to take a bit more responsibility for perpetuating this myth for so long. Lulling people into a false sense of security means that they will be taking risks that perhaps if they knew the whole truth, would not be taking in the first place.

Rather than feeding the fear, all reputable media, organisations and people in position of power should be looking at educating themselves first and then the public. We rely on our oceans for 70% of our oxygen. When we run out of oxygen will tourism really be all that important? The bigger perspective and an understanding of our ultimate reliance on the ocean, should be our first concern, rather than whether people come and holiday somewhere based on a rare incident with a shark. Newsflash, sharks need to live in the ocean, we don't.

Not only are sharks of priceless value to the oceans, they are also a huge revenue earner in the tourism industry. In Palau, it was estimated that a single shark brings in US\$179,000 every year in tourism dollars, or a total of US\$1.9 million in the life span of a single shark.

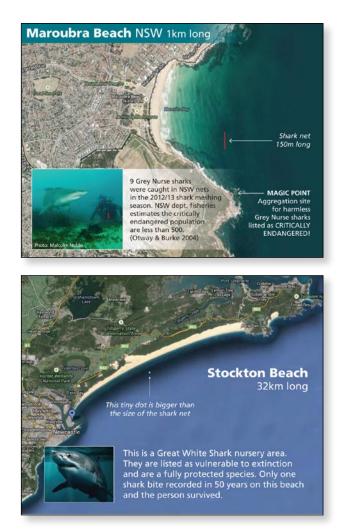
Maybe rather than destroying the shark population, we could begin looking at this from a different perspective. Tourism and other related industries in these areas that claim they have been affected by sharks, have in reality been affected more by the media circus after shark interactions. There may just be a shift in the type of tourists that eventually fill that gap, and they are more likely to be people who are respectful nature loving types, and see the sharks as the amazing creatures they are. This might just open up a whole new area of tourism in NSW. So maybe it is more a case of the tourist industry needing to evolve with the changing times.

There are some industries already benefiting from the shark incidents... and the media comes to mind. If this is the case, why would they change the biased way they report these shark incidents? This is one industry acting like a leach on society without any sense of responsibility to its host. It is no secret that the general shark population world wide has been decimated in a relatively short space of time. With up to an incredible 73 million sharks killed every year, predominantly for their fins, it's no wonder that the IUCN have assessed that one-third of all open ocean shark species are threatened with extinction.

Sharks are considered 'keystone species', which means that as top predators, they are extremely important in maintaining the balance in marine ecosystems. Removing too many sharks from an ecosystem can lead to a monumental shift in the equilibrium between predators and prey all the way through the food chain.

Removing all the medium sized fish in the ocean through less than ethical fishing practices by trawlers etc. will of course affect how far the sharks have to travel for their food. So really, we are partly responsible for the sharks having to change their feeding habitat areas. Maybe if we addressed some issues with how much we take from the ocean, we can look at the sharks with a much better understanding of their attempts to survive.

Sharks are often long-lived, slow growing and late to reach maturity and reproductive age. This means they take a long time to recover from any reduction of their population. Instead of culling these amazing animals, we should be doing our best to protect them. Even looking at the statistics in the last 10 years that shark nets have been used in NSW, it is possible to see a rapid decline in the number of sharks caught in the shark nets. For example with the Scalloped Hammerhead sharks (Endangered IUCN listing) there were 64 caught in 2004, and the number steadily declined with only 15 caught in 2013. This should send alarm bells ringing for anyone that has concerns about wiping out a whole species. Off Magic Point in Maroubra, lies an aggregation site for the harmless and Critically Endangered Grey Nurse sharks. With an estimated population of less than 500 of these sharks, we should be very alarmed at the loss of 22 through the current shark meshing program in just the last 10 years.

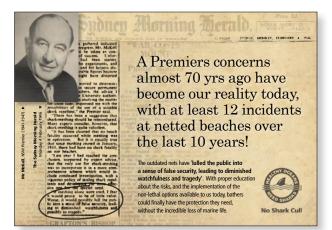


## c) Adequacy of management strategies

The NSW Shark Meshing Program since it began has not shown any signs of being an effective way to keep bathers safe. The current shark nets were approved in 1935, but only as a two-year experiment. However, by 1937 there had been no shark bites and no Government funding. During the Second World War, beach nets were removed from ocean beaches so fisheries ships could be used by the Americans. For three years, between 1943 and 1946, there were no fatal shark bites at these unnetted beaches.

At the end of the war, New South Wales Premier William McKell announced in the Sydney Morning Herald that beach nets were "quite valueless", noting that "since meshing ceased in January 1943, there had been no shark fatality on our beaches."

However, instead of abandoning shark nets, the Premier announced plans to use them in combination with experimental shark repellents because: "if meshing alone were used, I fear it would prove to be of little value. Worse, it would possibly lull the public into a sense of false security, leading to diminished watchfulness and possibly to tragedy."



Clearly this is exactly what has happened with many people falsely believing even now, that the nets stretch the full length of the beach and the complete depth. This dangerous myth means that people are not taking the proper precautions with the time of day they swim in the ocean etc.

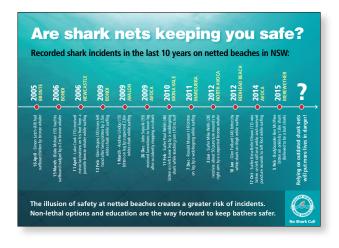
Nets were originally used, in 1935, to cull populations so there would be fewer sharks and therefore fewer shark alarms. In the 2009 DPI report, it was argued that, although culling is indiscriminate, the goal is to kill larger sharks to reduce the risk of a fatal shark bite incident. And killing sharks (and other marine species) is one thing nets do very well. Surely we have come a long way with technology since 1935 (coincidentally around the same time government thought introducing cane toads was a good idea in QLD)! We have a man-made disaster happening in our oceans, but because people can't see the damage they don't understand the devastation the nets and drum lines are causing.



It is interesting that in 2007 a 15 year old boy drowned in a shark net while spear fishing in NSW central coast near Shoal Bay, and hardly anyone is aware of this. Surely human safety needs to be considered when assessing the risks of nets to ocean users as well.

(http://m.perthnow.com.au/news/boy-15-drowns-in-shark-net/story-e6frg12c-1111113167964)

In northern NSW it is worth noting that there have been 39 shark incidents on NSW meshed beaches including one FATALITY. There are better options available to keep people and marine life safe.



# d) Measures to prevent attacks by sharks, including strategies adopted in other jurisdictions

#### So what are the alternatives?

**CSIRO program** – SMS messages sent by sharks that have been tagged via Surf Life Saving. People can be removed from the water when a shark swims past an acoustic receiver on popular beaches. Currently being used in WA and Northern NSW.

**Brazilian Program** – capture and tag sharks, then tow them out to sea. This program boasts a 97% reduction in shark bites and sharks are monitored to collect scientific data on their movements and none have returned to the beach where they were caught.

**Eco Shark Barrier** – A 3 year trial at Coogee beach in WA began in 2014. This method forms a complete barrier between swimmers and shark with no way of entangling marine animals.

**Clever Buoy** – Currently being developed in WA. A sonar device much like a fish finder that can recognise the swimming pattern of sharks in the area and send an instant message to lifeguards to get people out of the water.

**Shark Safe Barrier** – Currently being trialled in South Africa, it's a visual and magnetic barrier resembling a kelp forest which deters sharks by using magnets in the structure which sharks will not cross even to get bait.

**Shark Spotters Program** – Used in South Africa volunteers use a series of flags to signal to beachgoers the presence of sharks and if the water is clear enough to see them – so people can make informed decisions when to swim.

Aerial patrols and observation towers –

Currently being used in NSW.

**Fish Hoek exclusion net** – is a net that is constantly monitored for animal entrapment and is deployed each morning and removed in the evening. It provides a complete barrier between swimmers and sharks.

**Shark Shield devices** – Used by the Australian Navy which have proven effective.

**Shark Attack Mitigation Suits** – SAMS in conjunction with University Western Australia, have created two wetsuits to reduce the chance of shark incident – one for surfers and one for divers.

**Repellants** – audio, chemical and bubble repellants are being developed by the University of Western Australia.

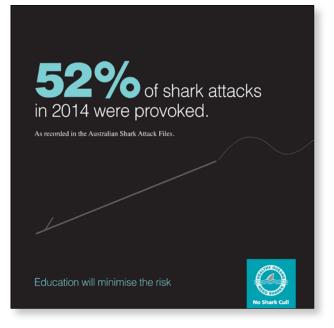
**Beach Mufflers** – to disguise the sound of swimmers at the beach. This technology is being developed by Curtin University.

### Education

Public education is by far the most effective way to make people safer.

The Australian Shark Attack File states 'sharks have killed 52 people in the past 50 years (1.04 per year) in Australian waters', so rather than an overemotional response it provides the following advice:

- Swim at beaches that are patrolled by surf lifesavers.
- Do not swim, dive or surf where dangerous sharks are known to congregate.
- Always swim, dive or surf with other people.
- Don't swim in dirty or turbid water.
- Avoid swimming well offshore, near deep channels, at river mouths or along drop offs to deeper water.
- If schooling fish start to behave erratically or congregate in large numbers, leave the water.
- Do not swim with pets and domestic animals.
- Look carefully before jumping into the water from a boat or wharf.
- Do not swim at dusk or at night.
- Do not swim near people fishing or spear fishing.
- If a shark is sighted in the area leave the water as quickly and calmly as possible.



# d) Measures to prevent attacks by sharks, including strategies adopted in other jurisdictions (continued)

#### My experience with the Eco Shark Barrier

I was there to help put together the Eco Shark Barrier in Coogee and it is a very well constructed barrier. Since then I have done many snorkels within the barrier, some of those on days when the swell was less than ideal for snorkeling and the barrier has always held up really well. The growth on it has created an amazing habitat for a great many varieties of fish. Some of the people in our group of social snorkelers travel over an hour just to come to the barrier, and are happy to do this every 10 days. If people are afraid of sharks, they would feel 100% secure inside this barrier, but even for those that are comfortable swimming in the ocean, the barrier has become an attraction just because of the plant life and fish it brings to the area, creating a unique habitat of its own.



There really is no competition when you compare it to the shark nets as you can see from these graphics, and it is more reflective of the technology of today and our understanding of the importance of our whole marine ecosystem.



#### It is worth stating at this point that: 'shark nets are NOT barriers' and 'the Eco Shark Barrier is NOT a net'.

This inconsistency and incorrect use of the terminology by politicians and the media is very confusing and misleading to the public. If anything it highlights the lack of real understanding from the people disseminating this information. If politicians are making these decisions on our behalf, they need to have a complete understanding of all aspects including the correct terminology.

## e) Any other related matters.

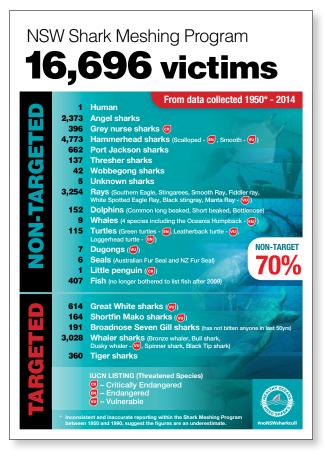
#### Shark nets kill more than just sharks

Shark nets and drum lines are lethal culling programs that impact sharks and other marine creatures that are increasingly threatened with extinction. Sharks are apex predators and keep the ocean in balance. Without sharks it is predicted that the entire marine ecosystem will collapse. Over 90% of the sharks in the ocean have been killed. Right now we need to do everything possible to protect them.

Internationally, shark nets have been labeled a "key threatening process" for killing endangered species.

We now know that over 17,000 animals have become victims of the NSW Shark Meshing Program, with 70% of that number being non-target species. It was even higher at 77% in 2014. These numbers alone should be enough for any compassionate human being to realise that the nets should really never have gone in to begin with.

A slow traumatic death from drowning not only distresses the other animals watching on (for instance a mother watching a baby whale calf tangled in a net), but also the people who see it happening. Sadly a great many animals, just die in silence. The dead animals caught in the nets then become a food source for sharks, once again totally negating the intention of the nets to protect humans from shark interactions.

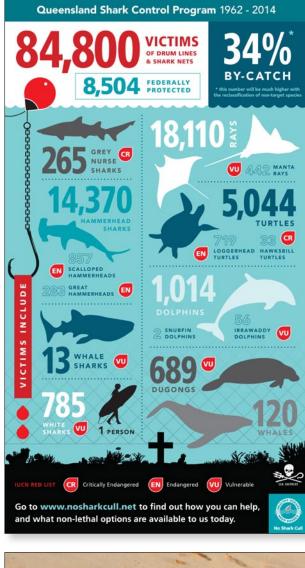


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In QLD the numbers are even worse (84,800) due to the combined damage of shark nets and drum lines. This should be a sign, including the example of the backlash when Colin Barnett tried to use the drum lines, of why scientists/marine biologists advice on this topic should not be ignored.





84,800 recorded victims of the outdated Queensland Shark Control Program (1962-2014) includes many currently on the Threatened Species List, like the Critically Endangered Grey Nurse Sharks and Hawksbill Turtles. If we want to keep our oceans healthy for future generations, we need to embrace the latest technologies that are far more effective at keeping people safe and reflect our increased understanding of the vital role wery animal plays in our marine environment. Go to www.nosharkcull.net to find out how you can help and what safety measures you can adopt now.

### Smart drum lines are not SMART

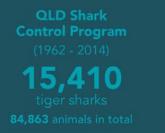
Even the consideration of using this method does not reflect well on those promoting it or those planning to use it as an option. The difference is more people will be there to document the cruelty and maybe NSW will get a taste of the outrage that occurred in WA when this method was used.



Photo: Rohan Sibon

## sharks are not harmless. but neither is human ignorance.

Madison Stewart (Shark Girl)



NSW Shark Meshing Program (1950 - 2014)

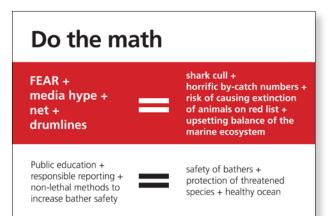
368 tiger sharks 16,819 animals in total (2014) tiger sharks



Famous oceanographer Sylvia Earle believes the biggest problem when it comes to how over fishing, climate change and **related issues** are impacting the planet's oceans is "**IGNORANCE**."

"People do not understand why they should care," she continued. "If people understand that the ocean is fundamental to every breath they take, to their very existence, they will do what it takes because of the recognition that it's important to our economy, to our health security, but most importantly to life itself."

(http://www.huffingtonpost.com.au/entry/sylvia-earleoceans-clinton-global-initiative\_5609ab67e4b0af3706dd77 2b?adsSiteOverride=au&section=australia&utm\_hp\_ref=g reen&ncid=fcbklnkushpmg00000044&ir=Green) To continue along the path that has been taken so far in NSW with the use of shark nets, or even worse, if you adopt the drum line idea from the QLD shark control program, you are ignoring every amazing scientist and every informed person out there that see's the bigger picture.



People are willing to speak out, and their voices will just get louder and louder... maybe it is time to listen.

## ISN'T THIS SUPPOSED TO BE A DEMOCRACY?



## WA Shark Cull (2014)

Public outrage resulting in protests worldwide. WA Government refuse to listen to the majority.

**Over 80%** of people in WA don't want drumlines.



NSW Shark Cull (1937-2014)

NSW Government silently decimating marine life for 77 years, including many threatened species.

## **75%** of people on Sydneys Nth beaches don't want shark nets.



we can be **a strong voice for the natural world**." - Dr Jane Goodall

"Just remember that when we get **together** & take action **together**,

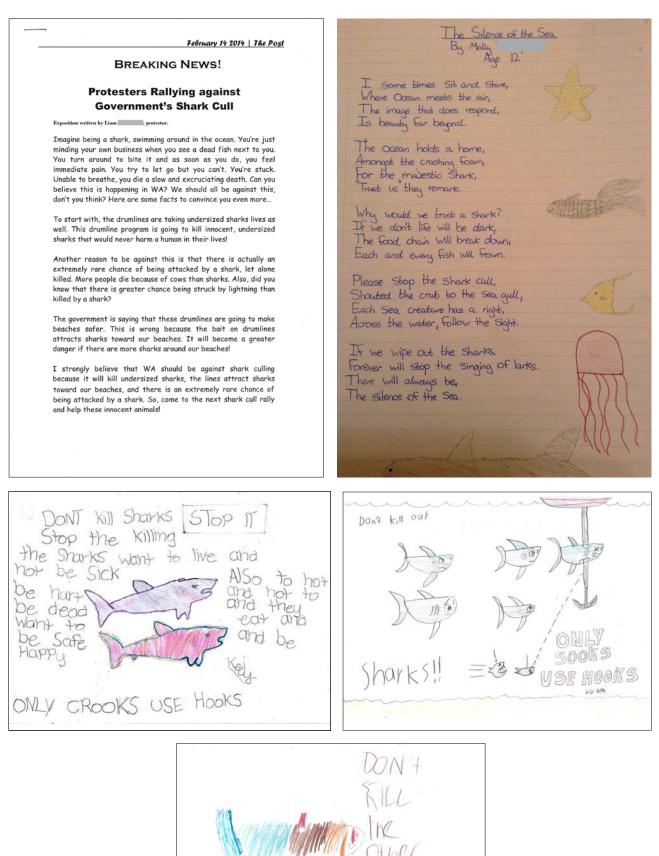






the next generations future depends on it...

#### Messages from the kids who will inherit all the issues we leave behind...



A poem that gives an indication of the amount of dedication that this issue has generated... We will continue for as long as it takes until people are as safe as they can be in a wild environment and our oceans do not suffer anymore from the poor decisions of our past.

## **Ripples of change**

- Donna Chapman (progressive from 5 Jan 2013 - 30 Sept 2014)

The rally may be over and memory of the speeches may grow dim, but the vibe of the day and the rhythmic chants stay with me, and i am once again hopeful that this is a battle we can win.

So continue to post your photos, those images will be seen far and wide, and send a message to the oceans that we are sorry, and we will do our best to expose what the government try to hide.

We bow in reverence to the oceans, for the role it has to play, and the delicate balance of its wondrous ecosystems, and the wisdom of the keepers that anchor energy every day.

The playful spirit of the dolphins and the wisdom of the whales, bring truths to those who listen, and messages of love from beyond the veil.

So as the paint on my hands wears off, from the banner making frenzy the night before, I contemplate the next big move, with an even greater need to be heard.

Because we are the voices for the animal kingdom, and the children we leave this to, and they will be glad we stood strong on this matter and let integrity guide our truth.

In the meantime we have the world behind us, with a message far greater than this cause alone, for once we win this battle, it will be proof of what can be done.

It's not just about the sharks, it's about so much more... It's about knowing our collective voices will be heard on the things that matter to us and causes we work hard for.

And now as another rally approaches, i do this in Mana's name, that the loss of her quiet unassuming beauty, will not be lost in vain.

An even bigger rally was suggested, and even bigger it truly was. In numbers over 6,000, and more in 16 places right across Oz.

Support also from NZ, England and South Africa to name just a few, we made it into the headlines across the globe, with increasing knowledge and exposure, our united front grew... We battled on environmental grounds, we knew logic and science was in our favour. Finally the news we dared hope for came true, and some struggled in that moment to savour.

But as the day draws closer, to the absolute final call, we will at last breathe a sigh of relief, knowing drumlines in WA will truly be no more.

And as various groups scramble, to take credit for the win, I can't help but remember shark fin wearing dogs and kids, sporting matching humongous grins.

This cause brought many to the fore, and each role no lesser than anothers. It was a collective decision to make change happen, and we did this by all coming together as one.

It has stretched many to their limits, through the challenges we continued to grow. Had we known the rocky path ahead, would we have begun it, i guess we'll never know.

Some people came and went, similar to the ebb and flow of tides... Some of us stayed for the duration, and could not leave as much as we sometimes tried.

The wave of support came from all corners of the globe, our oceans uniting us with focus on a common goal. Whenever we buckled under disappointment or pressure, we had a network of protectors to boost our morale.

So what blessings has this movement bestowed, Aside from the obvious win. It is in the connections we have made with others, across barriers of lifestyle, location, and lesser things.

A mass awakening happened on a global scale, the ripples will continue to be felt far and wide. We have made a grand start for hope for the future, and knowing we played a part should instill in us great pride.