

The Chairperson
Federal Senate Inquiry: Shark Mitigation and Deterrent Measures

Please find below my submission into the above.

Introduction

I have lived in Ballina for 40 years and in that time I have surfed most places from Byron Bay to Yamba. I have been surfing for nearly 50 years, from a youngster at Merewether Beach in Newcastle to the present day (sharks permitting). I still get the same buzz surfing now as I did when I was a 10 year old. I have even had two ambulance rides to hospital from two very dramatic surfing accidents when I experienced two near death experiences.

During those 50 years of surfing I have never experienced a period like the past 2 years (September 2014 to October 2016) where the area has had two fatal shark attacks, 9 severe attacks that resulted in varying injuries and 7 attacks that resulted in no injuries but surfers knocked off their boards/bite marks on boards & other surf craft etc. These attacks have occurred from Byron Bay to Yamba and are recorded in the Taronga Park Zoo Australian Shark Attack File and/or the local press. I know of at least 2 other attacks with no injuries that didn't make the press as the people didn't want to heighten the existing level of fear.

In all my years of surfing I have probably seen 2 shark fins cruising about 30 metres from me. When at school and when I was working, I was one of those dawn surfers that went for a surf before school/work and often before the sun was up. I surf for the pure enjoyment of it, the pleasure I get from it and when I was working it provided a stress relief mechanism.

The current situation is unprecedented. I thought when I retired, I would surf every day without a care in the world. I have had to change my surfing habits: picking the times I go out, being more aware of bait balls, number of surfers out, always looking around and down and across the ocean and relying on good old "gut feelings". I have painted the bottom of my board the Bandy Bandy poisonous snake black and white stripes and purchased a Sharkbanz magnetic ankle strap as the whole situation was doing my head in. Those two actions may not prevent a shark attack, but, I had to do something.

I know there is not a quick fix to this issue. There is no right answer to the current spike in shark attacks/close encounters and I believe there is probably no one solution as well. And that is the frustrating thing that local surfers are experiencing at the moment – the not knowing and still wanting to surf whenever and wherever.

It is not just a Ballina coastline problem, it includes the whole coast line from Tweed Heads to Newcastle and therefore I applaud the NSW State Government's attempts to mitigate encounters between sharks and humans. As with any problem a State/Federal Government is faced with, politics seems to dominate rather than the issue at hand.

I have supported all the measures the NSW State Government has introduced except the failed attempt to install the WA Eco Shark Barriers. A large proportion of locals told NSW Department of Primary Industries they would not work in our surf conditions with shifting sand banks and high wave energy. Initially I was against deployment of shark nets, but after the continual attacks in 2016 and the "experts" not having a clue for the ongoing shark activity close to the shore, I am prepared to support any measures including the six month shark net trial, that will assist to prevent interactions between ocean users and sharks.

Terms of Reference

1. Research into shark numbers, behaviour and habitat

I believe the Great White shark was included in the protected species in the late 1990's. Since the shark attacks I have heard different numbers quoted by Department of Primary Industries, CSIRO etc. I keep hearing from shark experts and scientists that world wide, Great White numbers are still low. However the frustrating thing is that no expert, scientist or organisation can say how many Great Whites are actually travelling along the east coast of Australia and /or is that number adequate or not for the marine habitat. Local professional fisher people tell me the ocean off the North Coast of NSW coastline is teeming with sharks, including Great Whites.

If the Great White shark or any animal is put on a protected species list, then adequate scientific monitoring should have been implemented to provide this basic information needed to review the situation. It appears the authorities have let the community down on this aspect.

The five fatal attacks that have occurred along the NSW coast since 2008 include 1 Bull Shark at Ballina in 2008, 1 Tiger shark at Coffs Harbour in 2013, 1 Bronze Whaler at Tathra in 2014, 1 Great White at Byron Bay in 2014 and 1 Great White at Ballina in 2015.

I usually surfed at dawn as a school student and when I worked and the authorities always say the worst time to be in the water is at dawn or dusk. During winter and when I worked I had the occasional surf after work and got out almost on dark. During those many years of surf sessions, I never saw any indication of shark activity like we are experiencing now.

I have always been wary of surfing at break walls of river entrances due to the presence of Bull sharks, especially after heavy rain. This was the case of the fatal shark attack at Ballina in 2008 when a young person was body boarding at North Wall in murky water following a lot of rain.

Apart from the attack on Graig Ison at Evans Head at approx 6.10am on 1/8/15, all the attacks from September 2014 to October 2016 have occurred in the middle of the morning or afternoon on a bright sunny day with clear visibility in the ocean. I have not researched all the other 300 attacks Australia wide between 1995 - 2015 (Source: Australian Shark Attack File, Taronga Zoo)

The question still remains – why so many attacks from September 2014 to October 2016 and the attacks have occurred almost in every season.

My own observations are as follows:

*Approx. 7 attacks have been in the winter months. The sea surface temperature did not go below 20 degrees during those months (source: BOM)

*Increase in the number of bait balls and they appeared to drift closer to the shoreline.

Statements from marine biologists and scientists like “It’s a worldwide trend that populations of sharks have declined, not increased” and “We understand so little about sharks in general” (Source: SBS Insight program 29/9/15), do not instil much confidence in the wider community that the authorities really know the reason for the spike in attacks that have occurred from September 2014 to October 2016. **They say there are spikes in shark sightings/encounters and attacks in areas from time to time, but, again I say not to the extent of the attacks witnessed at the moment.**

I believe the review to keep the Great White shark on the Protected Species list is not until 2018. If I was on the Review Panel, the first question I would like an answer to is – What are the shark numbers now along the East and West Coasts of Australia? If, as I have said the authorities do not know the numbers now, how are they going to determine a figure for the Panel in 12 months time. Answer – they can't!!

2. The regulation of mitigation and deterrent measures under the *Environment Protection & Biodiversity Conservation Act 1999*, including exemptions from a controlled action under Section 158.

I fully support the NSW Government writing to the Federal Minister for the Environment, Josh Frydenberg requesting him under Section 158 of the above Act, to approve the six month trial of shark nets along beaches of the North Coast.

Furthermore, if any other area experiences a similar level of shark/human interaction similar to what I have outlined in my introduction of this submission (2 years – 2 fatalities, 9 attacks with injuries, 7 attacks without injuries), then that area should be afforded the same deterrent measures available.

I make no apology for supporting measures that puts human life above marine life.

3. The range of mitigation and deterrent measures currently in use

I am sure this Senate Committee is familiar with the current Shark Meshing Program (SMP) that currently exists along the 200km NSW coastline, off 51 beaches between Newcastle and Wollongong and so I will only outline a few observations from my perspective on that mitigation and deterrent measure.

The last fatality recorded at a netted beach was at Balmoral in 1955 and the last recorded fatality along that coastline was in 1966. All fatalities since 1966 have been along other parts of the NSW Coastline. In 1982 at Byron Bay, in 1993 at Byron Bay and the other five as I outlined in Point 1 above – 7 in total with 5 of them at Byron Bay and/or Ballina.

The SBS Insight Program developed an interactive map showing all attacks in Australia from 1995 to 2015, based on data in the Taronga Park Zoo Shark Attack File.

I counted approx. 25 attacks (with injuries and no injuries) between the SMP area from Newcastle to Wollongong. As outlined in my Introduction, the area between Byron Bay and Yamba has seen 18 attacks, 2 as fatalities along a 70km stretch of coastline.

This is the comparison between a SMP area and a non-SMP area – 25 in 20 years compared to 17 in 2 years. The odds are definitely in a person's favour if you use the ocean between Newcastle to Wollongong. The current SMP provides the many millions of public & tourists a certain level of reassurance. Therefore, it is a question of equality to afford other areas experiencing a high level of shark interaction, the same level of reassurance.

Of course, it isn't just the SMP that has kept the number of encounters between humans and sharks to such a low number between Newcastle to Wollongong. Other measures have also assisted. Due to its high population base, NSW Surf Life Saving Clubs have more resources that utilise rubber dinghies patrolling the beaches, shark alarms installed at most if not all Surf Clubs and aerial surveillance to spot sharks coming too close to shore. I am glad the combination of all these measures have kept the number to only 25 in 20 years.

Since aerial surveillance was introduced on the North Coast as one of the NSW Government's measures to the shark issue, I can tell you there is nothing more reassuring as seeing a helicopter fly over where you are surfing and not stop & hover above you. I was involved in a surf break evacuation in Dec 2016 when the helicopter hovered above us and then gave the alarm of a shark very close by. Naturally, I am aware of the cost of aerial surveillance.

The NSW Government introduced a shark tagging program in November 2015 and in 12 months approximately 60 sharks have been caught, tagged and released:

<http://www.dpi.nsw.gov.au/fishing/sharks/management/shark-tagging-project>

I remember listening to NSW DPI Dr Vic Peddermors on ABC radio say on his second tagging mission he would be surprised to tag any more sharks. It was reported they tagged 3 more that day. Other “experts” have stated at various times “the Great Whites have left the area” but they still continued to be caught, tagged and released.

While I support the existing tagging program of sharks to assist in the counting of shark numbers, tracking of the sharks and research into their behaviour, I believe there is a case to remove a particular shark from an area if that shark is continually swimming close to shore. Currently the practice is only to tag & release. The NSW Government is leaving itself wide open for litigation if a rogue shark is responsible for the death of a person and there is evidence from its swimming patterns, it has frequently visited the area of the attack.

4. Emerging mitigation and deterrent measures and 6 alternatives to currently employed mitigation and deterrent measures, including education.

The NSW Government is to be applauded for allocating \$16M over 5 years in an attempt to mitigate and deter the number of encounters between humans and sharks. As a person living in a regional area, we often grow frustrated at the amount of money (billions) allocated in the highly populated cities on various projects – good to get some of that money being used on an issue that affects so many ocean users.

In September 2015 the NSW Government hosted a Shark Summit, attended by shark experts and scientists with world wide reputations. I have not been able to locate a link to its findings, but, attached is a link to a summary of its findings compiled by Coastalwatch:

<http://www.coastalwatch.com/surfing/14909/the-great-shark-summit-of-sydney>

I have purchased a Sharkbanz and painted the bottom of my board black and white. I did this as my own way of doing something to prevent an encounter. As stated earlier, I have also changed my surfing behaviour in terms of when I go out, conditions when I go out and number of people out. People do need to take a certain degree of responsibility to assist in preventing attacks.

However, even the manufacturer's of the much applauded Shark Shield do not give a 100% guarantee that the device will stop a Great White in attack mode. Everything is still in “test” mode and meanwhile the attacks will continue to occur and the “experts” cannot provide a reasonable and consensus view of why the spikes in attacks on the North Coast.

Many of the opponents of the SMP, including members of the Greens political Party, urge the Government to invest in non-lethal shark mitigation programs like Shark Spotting or the program launched at Byron Bay called Shark Watch NSW. I am in favour of any program, measure, strategy etc. that assists to reduce the number of encounters between humans and sharks. However, Shark spotting even with the assistance of drones, is very labour intensive. It is reported that NSW Surf Life Saving membership at Ballina and Lennox Head Clubs has decreased since the increased shark activity. I am involved in a volunteer organisation and it is even hard to get 4 people to volunteer 2 hours per day, four days per week.

A Shark Watch NSW spokesperson is quoted as saying “We need 32 volunteers at one beach over two days from 9.00am to 5.00pm”. Have a think about the number of beaches and headlands between Byron Bay and Yamba and try and come up with a figure to adequately cover that coastline! By all means, incorporate Shark Spotting as another mitigating measure wherever possible, but it is NOT the complete answer everywhere.

The conservationists cannot have everything their own way. Due to their protected status, we can't cull the Great White or any other shark on the Protected List. The anti-shark net people say we should not extend the deployment of shark nets due to the supposedly high by-catch deaths (see my notes below on this issue). I could not find the figures, but NSW DPI stated more Great Whites are caught by the smart drumlines than the shark nets off the North Coast. Remember, with the smart drumlines the sharks are caught, tagged and released so that they can be tracked/monitored by the listening stations placed along the NSW coastline.

Therefore, does NSW DPI increase the number of smart drumlines or engage the traditional shark nets. More

sharks might inadvertently be killed with the drumlines but at least there is no by-catch of other marine species with their deployment.

5. By-catch from mitigation and deterrent measures

When the first calls for nets to be installed following the attacks in 2015, I was initially against the deployment of nets on the North Coast due to the issue of by-catch by the SMP. For years I heard from various conservation groups that the by-catch from the existing SMP was high, even 1000's. The North Coast has a reputation of being in harmony with the environment and the thought of those magnificent dolphins, that often surf with us, ending up as collateral damage from the SMP made me take this stance.

However, as the attacks continued in 2016, I decided to do my own research into by-catch from the existing SMP. Here is a summary:

| Financial Year | Species caught in nets | Species released alive | Species died |
|----------------|------------------------|------------------------|--------------|
| 2009/10 | 120 | 76 | 44 |
| 2010/2011 | 157 | 98 | 59 |
| 2011/2012 | 158 | 102 | 56 |
| 2012/2013 | 108 | 74 | 34 |
| 2013/2014 | 191 | 115 | 76 |
| 2014/2015 | 189 | 116 | 73 |

For the above six years, the average death per year of marine species caught in the nets is 96.83. Remember, this is along a 200km coastline, off 51 beaches.

It is true the number of deaths increased sharply for the 2015/16 Financial Year. 748 marine species caught in nets, 384 released alive and 363 died. However, rather than “throw the baby out with the bath water” as opponents of the SMP have suggested, a more sensible & scientific approach would be to look at the reasons for the sharp increase for that one year compared to the previous six years.

It would be interesting to know how many of the above marine species that died in the nets might have ended up on the menu for the Great White or other sharks and how many might have died as a result of ingesting plastics that we have allowed to enter their environment.

As far as the SMP trial on the North Coast is concerned, the results can be considered damaging or reasonable – depending on a person's view of the SMP. For the period 8/12/16 to 7/1/17 – 43 species caught, 31 released alive and 12 died in the nets. For the period 8/1/17 to 7/2/17 – 72 species caught, 40 released alive, 32 died in the nets.

One local “marine ecology expert” who opposed the nets declared that “20 Bottle nose dolphins would die in the first week” of the nets being deployed – only 2 have died in 2 months.

7 The impact of shark attacks on tourism and related industries

The beach & surf culture is deeply engrained in our Australian lifestyle. All the towns scattered along our coastline rely to a great extent on tourism and this has a flow on affect on other industries in the town.

The following is a link to a recent story about a surfboard manufacturer in Ballina being directly affected by the current shark crisis:

<http://www.northernstar.com.au/news/shark-issue-is-frustrating/2797766/>

The Ballina Chamber of Commerce conducted a survey on the impacts of the shark issue and even though 85%

of the respondents said there has not been a downturn, the chamber did admit that the majority of the other 15% were mainly direct surfing related industries. I could not find the news story to that.

Another surfboard manufacturer I know told me he has reduced his employees from 12 to 2 since the shark crisis commenced

I do know of one surf related business and the owner told me that since the serious attack on the 2/7/15, the sales of surf accessories like leg ropes, wax, board covers etc. has dropped by 90%. After he made this public, he received hostile treatment from some sections of the community.

Accommodation and hospitality businesses will not be directly impacted by the shark crisis as Ballina and the surrounding areas have other attractions to maintain healthy tourist numbers. However, it is the businesses that are directly surf related that have been impacted and an economic downturn is the result. These include surf manufacturers as outlined above, Surf Schools, surf retail outlets etc.

I should also point out that the increased shark activity has impacted on the social fabric and morale of ocean users on the North Coast. Most conversations, in and out of the water, somehow always raise the issue of sharks, shark attacks, shark deterrent measures, shark theories etc. Everyone would rather discuss other matters, but the topic of sharks usually takes precedence.

Conclusion

As a surfer of over 50 years, I have never experienced the number of shark attacks like we have had for the two years September 2014 to October 2016. The “experts” cannot give a reason for the spike in attacks and provide a figure for the number of Great Whites we currently have migrating the east coast of Australia.

Therefore, until such time as the “experts” can provide some answers, I am prepared for the NSW Government to use **all** shark mitigating & deterrent measures available to prevent/reduce the number of interactions between humans and sharks.

I make no apology for supporting measures that puts human life above marine life.