

**Submission
No 80**

MANAGEMENT OF SHARKS IN NEW SOUTH WALES WATERS

Organisation: Nature Conservation Council of NSW
Name: Ms Daisy Barham
Position: Campaigns Director
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Nature Conservation Council

The voice for nature in NSW

The Committee Manager
Committee on Investment, Industry and Regional Development
Parliament House
Macquarie St
Sydney NSW 2000
By email: investmentindustry@parliament.nsw.gov.au

October 27, 2015

Dear Committee Members,

RE: Inquiry into the Management of Sharks in NSW

The Nature Conservation Council of NSW welcomes the opportunity to make a submission to the Investment, Industry and Regional Development Committee in relation to the management of sharks in NSW.

The Nature Conservation Council of NSW (NCC) is the state's peak environment organisation. We represent more than 150 community organisations with a combined membership of over 60,000 individuals. Together we are dedicated to protecting and conserving wildlife, landscapes and natural resources of NSW, including in our oceans and estuaries. We strive to achieve an ecologically sustainable society through advocacy, education, research and community empowerment.

In the lead up to the 2015 NSW State Election NCC published a list of key policy objectives including a number relating to the protection of sharks.ⁱ

Sharks play a key role in marine ecosystems as apex predators and reductions in shark populations have been demonstrated to have consequential impacts down the food chain. Sharks are slow to reproduce and have few young which makes them particularly vulnerable to the impacts of fishing and shark management activities that kill even a small number of animals. Worldwide it is estimated that shark numbers have been reduced by 90%, mostly due to fishing, shark mitigation programs and shark finning. 70 to 100 million sharks are estimated to be killed every year by human activities.

The recovery of shark populations should be a primary goal in any management shark management strategy in NSW. The recently announced Shark Management Strategy demonstrates there are non-lethal technologies, public awareness, surveillance and research strategies available to reduce risks to ocean users while minimising the impact on sharks and other marine animals. These strategies should be pursued actively.

The current Shark Meshing Program (SMP) in NSW has a significant impact on sharks and other marine animals, killing dozens of sharks and other animals each year, including recognised threatened

species. At the recent shark summit at Taronga Zoo, scientists recognised the SMP as an effective form of cull in that it clearly reduces shark populations.

The Government has stated the Shark Management Strategy will run in conjunction with the SMP. NCC does not accept that the SMP can meet the core objectives of the Shark Management Strategy which are to “increase protection for bathers” and to “minimise harm to sharks and other animals.”

A number of scientists and researchers at Sea Shepherd have published assessments that question the public safety benefit of shark nets and drum lines and outlines the significant impacts on sharks and other marine animals.ⁱⁱⁱⁱ NCC asks the committee to consider carefully the impact on shark populations from the SMP and the efficacy of claims about the benefits to ocean users.

In addition to reducing the impact on shark populations from the SMP it is important that NSW protects existing shark populations. Specific species recovery plans and appropriate zoning within a comprehensive, adequate, and representative network of marine protected areas across the state are critical to protecting shark and shark habitat.

These solutions are especially important for the Grey Nurse Shark. NCC considers that the current regime for protecting Grey Nurse Sharks at known aggregation sites is inadequate and additional protections are needed.

Human interactions with nature and natural environments sometimes leads to injury and in rare cases is fatal. The encounters and bites this year have been widely covered in local, state, national and international media, creating the perception that shark bites are far more common than they really are. Without understating the impact on the family and friends of victims of shark bites, and the understandable community impacts, NCC asks the committee to give careful attention to putting the incidents of shark bites and other encounters into perspective, considering published shark bite figures^{iv}, shark population assessments, increased ocean use and other relevant factors.

As a coast and ocean loving state, shark bites and encounters have resulted in understandable fear in some areas and a corresponding demand for action. But the community, including on the North Coast, has overwhelmingly rejected the idea of expanding nets or any form of cull^v. There appears a growing acceptance in the public mind that the ocean is the domain of shark and furthermore, that there is a degree of personal responsibility required when entering the water. This community attitude should be fostered through community awareness campaigns as the best way to ensure people take individual actions to reduce risk of shark encounters where appropriate.

NCC has provided more detail on the following:

1. The efficacy of the existing Shark Meshing Program (SMP) – namely its effectiveness of providing bather protection and impact on shark populations, including threatened and endangered sharks, as well as to other marine life.
2. Limitations in the current management regime as it related to the protection of Grey Nurse Sharks.

NCC asks the committee to consider the following recommendations for inclusion in the inquiry report.

1. That any policy impacting on sharks in NSW be guided by a primary goal of recovery of shark populations.
2. That the focus of Government efforts when it comes to reducing human / shark interactions be on non-lethal deterrent or exclusions devices, improved research on shark movements and behaviours, and public awareness of risks and the importance of shark to a healthy marine environment.
3. The Shark Meshing Program not be extended, and be wound back as quickly as possible.
4. Nets known to capture Grey Nurse Shark be removed immediately or be prioritised to be replaced with non-lethal trials.
5. Any technologies replacing the SMP be genuinely non-lethal to sharks and other marine life.
6. The Introduction of a prohibition on targeted shark fishing in NSW.
7. Establishing marine sanctuary zones in a 1,500 metre radius surrounding critical habitat and aggregation areas for the Grey Nurse Shark.

The efficacy of the Shark Management Program in NSW

The NSW Shark Meshing Program (SMP) operates from Newcastle to Wollongong and includes 51 nets, each 150 metres long.^{vi} The nets are in place from 1 September to 30 April each year. They are not exclusion devices and sharks are able to swim over and around the nets.

The two primary stated objects of the SMP are to:

1. reduce the risk to humans from shark attack at beaches of the SMP, and
2. minimise the impact on non-target and threatened species.

NCC argues that it is not clear whether or not the SMP has reduced risk to humans from shark attacks and fails to minimise the impact on non-target and threatened species.

Sea Shepherd researcher Natalie Banks has reviewed the history of the SMP in NSW^{vii}. The evidence shows that shark encounters do occur at netted beaches, with an average of one each year in the last 25 years. Drawing conclusions about how shark encounters are different in netted or un-netted areas is difficult but it is clear that encounters occur at both netted and un-netted beaches and encounters and fatalities in particular remain very rare.

Jessica Meeuwig from the University of Western Australia^{viii} has considered the effectiveness of the drum-line program in reducing fatalities in Queensland. She concluded that fatalities were not significantly different from the period before drum-lines were deployed in Qld. However she did note that fatalities are such rare events that differentiating between random coincidence and underlying patterns is fraught with difficulty. Other researchers have pointed to the challenges in assessing the effectiveness of shark programs using bite and fatality statistics.^{ix}

In the 2014/15 SMP season, 189 animals were caught and 116 of those died. The catch included 10 white sharks (5% of total catch and all 10 died), 4 Grey Nurse Sharks (2% of total catch, all 4 died), 2

Tiger Sharks (1% of total catch, both died), 42 Smooth Hammerheads (22% of total catch, 41 died) and a variety of rays (89 or 46% of total catch).^x

The catch figures show that the majority of animals caught in the nets are either non-target or threatened species.

Analysis by Sea Shepherd has shown that over 17,000 marine animals have died in NSW Shark Nets since 1950.^{xi}

Protection for Grey Nurse Sharks

The Grey Nurse Shark is listed as Critically Endangered under the Commonwealth Environmental Protection and Biodiversity Conservation Act and as Endangered under the NSW Fisheries Management Act.^{xii}

The Grey Nurse Shark is considered to have slow growth, be long-lived, present late onset sexual maturity and have low fecundity. Estimates put the east coast population of Grey Nurse Sharks at between 1131 and 2142 individuals.^{xiii}

Grey Nurse Sharks tend to be found in specific aggregation sites with 13 of these sites in NSW.^{xiv}

The NSW Government collaborated with the Commonwealth Government in the development of the 2014 Recovery Plan for the Grey Nurse Shark^{xv}. The recovery plan lists “mortality related to shark control activities such as beach meshing or drumlining” as a principle threat to the Grey Nurse Shark.¹

Since 2009, 26 Grey Nurse Sharks have been entangled in shark nets in NSW with the majority of entanglements resulting in fatalities.

The recovery plan also lists incidental capture by commercial and recreational fishers as a principle threat.

There are regular reports from divers of Grey Nurse Sharks being seen with hooks in their mouths or hook damage at known aggregation sites. Recent reporting from Broughton Island near Port Stephens suggested drum-lining, potentially by recreational fishers, was occurring in the area with a Grey Nurse Shark spotted trailing rope from its mouth.

Both identified threats, the SMP and incidental capture, can be more adequately addressed in NSW.

In relation to the SMP, nets close to aggregation sites (primarily Magic Point), or that have caught Grey Nurse Sharks in the past should be removed immediately or be prioritised for replacement by non-lethal technologies.

¹ 2014, Recovery Plan for the Grey Nurse Shark, Commonwealth Department of Environment

Only five of the identified aggregation sites in NSW specifically prohibit fishing. The remaining sites only prohibit fishing with bait. The exclusion zones at most sites, either as sanctuaries or exclusion zones for fishing with bait, only extend 200m from the sites.

NCC recommends establishing marine sanctuary zones in a 1,500 metre radius surrounding critical habitat and aggregation areas for the Grey Nurse Shark.

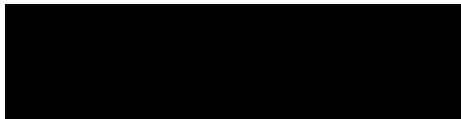
Conclusion

The current public debate about sharks and the management of shark / human interactions offers the opportunity to review the long established, but arguably ineffective management regimes in NSW, especially the SMP.

NCC has welcomed the Government's approach to non-lethal deterrents^{xvi} and the generally scientific approach to date. NCC believes it is possible to minimise risks to ocean users without killing sharks. Furthermore, this is necessary for the recovery of shark populations and the protection of the health of the marine environment.

Thank you for the opportunity to provide a submission to this inquiry. If you would like to discuss this submission further, please contact NCC's Marine Campaigner Justin Field on 02 9516 1488.

Yours sincerely,



Daisy Barham
Campaigns Director

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- ⁱ <http://www.nature.org.au/media/2116/our-environment-our-future-revised-february-2015.pdf>
- ⁱⁱ <https://theconversation.com/has-queensland-really-saved-lives-by-killing-thousands-of-sharks-23437>
- ⁱⁱⁱ <http://www.seashepherd.org.au/news-and-commentary/news/the-truth-about-shark-nets-in-new-south-wales.html>
- ^{iv} <https://taronga.org.au/conservation/conservation-science-research/australian-shark-attack-file/2015>
- ^v <http://www.theguardian.com/environment/2015/sep/29/shark-hit-australian-community-opposes-cull-research-finds>
- ^{vi} <http://www.dpi.nsw.gov.au/fisheries/info/sharks/meshing/shark-meshing>
- ^{vii} <http://www.seashepherd.org.au/news-and-commentary/commentary/proof-that-new-south-wales-nets-only-provide-a-false-sense-of-security.html>
- ^{viii} <https://theconversation.com/has-queensland-really-saved-lives-by-killing-thousands-of-sharks-23437>
- ^{ix} <https://theconversation.com/shark-bite-statistics-can-lie-and-the-result-is-bad-policy-21789>
- ^x http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0007/571750/shark-meshing-bather-protection-program-2014-15-annual-performance-report.pdf
- ^{xi} <http://www.seashepherd.org.au/news-and-commentary/news/updated-catch-figures-within-nsw-shark-meshing-program-hits-over-17-000-marine-animals.html>
- ^{xii} <https://www.environment.gov.au/resource/australian-threatened-species-grey-nurse-shark-carcharias-taurus>
- ^{xiii} <https://www.environment.gov.au/system/files/resources/91e141d0-47aa-48c5-8a0f-992b9df960fe/files/recovery-plan-grey-nurse-shark-carcharias-taurus.pdf>
- ^{xiv} <http://www.dpi.nsw.gov.au/fisheries/species-protection/conservation/what-current/critically/grey-nurse-shark/new-fishing-and-diving-rules>
- ^{xv} <http://www.environment.gov.au/system/files/resources/91e141d0-47aa-48c5-8a0f-992b9df960fe/files/recovery-plan-grey-nurse-shark-carcharias-taurus.pdf>
- ^{xvi} <http://www.nature.org.au/news/2015/10/nsw-shark-management-strategy-welcomed/>