

# NSW Threatened Species Scientific Committee

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The Hon. Gabrielle Upton, MP  
Minister for the Environment, Minister for Local Government  
and Minister for Heritage  
GPO Box 5341  
SYDNEY NSW 2001

Dear Minister,

One of the Key threatening process listed under the *Biodiversity Conservation Act 2016* is the “Death or injury to marine species following capture in shark control programs on ocean beaches.” A similar Key threatening process (KTP) relating to the shark meshing program in NSW is also listed as a KTP under the *Fisheries Management Act 1994*.

The NSW Shark Meshing (Bather Protection) Program Joint Management Agreement (JMA) is an agreement between the Department of Primary Industries and the Office of Environment and Heritage which aims to minimise the impact of shark meshing on marine mammals, birds and reptiles.

Under section 2.25 of the *Biodiversity Conservation Regulation Act 2017* (BC Regulation), the NSW Threatened Species Scientific Committee (NSW TSSC) must conduct an annual review of the performance of all parties to a Joint Management Agreement (JMA) and advise the Minister of any deficiencies in the implementation of the JMA by any party. The NSW TSSC must also provide its advice to the Environment Agency Head so that it can be included in an annual report or be made available for public inspection.

The NSW TSSC has reviewed the Shark Meshing (Bather Protection) Program (SMP) 2016–2017 Annual Performance Report. With mortalities of threatened and protected non-target species again reported, the NSW TSSC maintains its concern about the impact the SMP has on protected and threatened marine species in NSW. The NSW TSSC notes that there has been a small drop in interactions reported with non-target (75%) compared with the rate of non-target interactions in 2015–2016 (82%) and in 2014–2015 (77%). Total interactions (373) are considerably lower than the 749 reported for 2015–2016 report, but it is still considerably greater than the long-term average.

The NSW TSSC is pleased to see reports of increased use of aerial surveillance documented in the report, including both helicopter surveys and use of drones. There is also an increased effort to improve public awareness through the release of updated versions of a SharkSmart app. The NSW TSSC is also pleased to see the results of research undertaken using the DNA samples taken as part of the SMP. The library of more than 800 samples is a valuable resource and the current report provides details of genetic research which has used these samples to provide information on population structures for a number

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of shark species as well as identifying a new shark for NSW territorial waters, the Australian Blacktip Shark.

The number of shark sightings recorded by Surf Lifesaving NSW was dramatically reduced in the reporting year (17 as opposed to 82–139 in the previous five seasons), explained by increased media attention and a consequent change to reporting protocols in which only shark sightings confirmed by a lifesaver were recorded. This indicates that the figures in the current year may be an underestimate while those in previous years may have been overestimates.

In the current report, observers were present at only 34% of net checks (same as for 2015–2016), which is an average of the overall program. It should be noted that the average rate of observer presence during net inspections varies across the netted sites ranging from 42% in the Hunter to lows of 26% in the Illawarra and 28% in both Sydney South and Sydney North. As stated in previous reports, the NSW TSSC considers this level of oversight is too low.

There is only a single day of training provided to observers and contractors with three of the observers employed as casual and the other full time for a fixed term of 12 months. It would be interesting to know if these are employees who have been employed in these positions previously or if they are new people. If these are experienced observers, then the training serves as refresh training and introduction to new technologies and information such as a new DPI identification guide which was provided for all contractors to retain on their boats. If the personnel receiving the training are new to this work, then a single day seems inadequate to cover all aspects of the observers' responsibilities, including shark and ray identification, acquisition of tissue samples, disentangling techniques and reporting protocols.

A trigger point for the objective of 'minimising the impact on non-target species and threatened species' was tripped three times in the current reporting year following the entanglement of 17 Grey Nurse Sharks, two Hawksbill Turtles and 71 Smooth Hammerhead Sharks. It is stated that the review report will be prepared in 2017, but this has not yet been circulated. Trigger point review reports from previously years have now been completed and are included in the report.

As stated previously by the NSW Scientific Committee (replaced by the NSW TSSC in 2017), trigger points should be sensitive to the population parameters of particular species. However, as they are currently set, trigger points are too coarse to initiate an effective change in management for species with declining or recovering populations. In addition, trigger points currently take no account of the different threat categories in which a species is listed. More sensitive trigger points should be set for species listed as Endangered or Critically Endangered, where life history traits (e.g. late maturation, low fecundity, small population size) and low population numbers already predispose species to significant impacts from anthropogenic sources of mortality. The NSW TSSC therefore once again urges a review of the scientific basis for setting trigger points, taking into account population size, demographic structure, breeding biology and the cumulative effect of other anthropogenic sources of mortality affecting each non-target and threatened species that interacts with the SMP.

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While the NSW TSSC understands its statutory responsibilities pertain to marine mammals and reptiles (as listed under the *Biodiversity Conservation Act 2016*), we remain concerned about the impacts of the shark meshing program on species listed under the *Fisheries Management Act 1994*, in particular the Critically Endangered grey nurse shark (*Carcharias taurus*). The NSW TSSC will continue to raise its concern regarding the SMP in order to assist in improving the operation of the Program in relation to mitigating impacts on non-target marine species.

Finally, the NSW TSSC wishes to again stress the importance of evidence-based criteria in the SMP. Scientific evidence continues to be required to determine the effectiveness of the whale and dolphin acoustic pingers attached to the nets, the assessment of shark abundance or aggregation at netted vs un-netted beaches, and the fate of different species under the 'released alive' category. The NSW TSSC also encourages further research and tests of the effectiveness of alternative technology, such as the SMART drumlines being trialled on the NSW north coast. The NSW TSSC supports trials of this technology within the SMP region to test their efficacy in relation to the nets currently used in this region.

A similar letter has also been sent to Mr Anthony Lean, Chief Executive, Office of Environment and Heritage.

Yours sincerely



Dr Marco Duretto  
Chairperson  
NSW Threatened Species Scientific Committee