

The Hon. Niall Blair, MLC
Minister for Primary Industries
GPO Box 5341
SYDNEY NSW 2001



Dear Minister

Re: 2015-16 Annual Performance Report for the Shark Meshing (Bather Protection) Program

The NSW Shark Meshing (Bather Protection) Program (SMP) operates under two Joint Management Agreements (JMAs) and a management plan, which provides for improved environmental outcomes.

As required by Section 221Y of the *Fisheries Management Act 1994*, the Fisheries Scientific Committee's (FSC) role regarding the JMA is to:

- (1) conduct a review of the performance of all parties to the joint management agreement, and
- (2) advise the Minister of any deficiencies in implementation of the joint management agreement by any party to it.

The FSC has reviewed the performance of all parties as outlined in the SMP 2015-16 Annual Performance Report. The FSC is concerned that the extremely late delivery of the report precludes the opportunity for improvement of the SMP for the following season.

The FSC is interested in seeing analyses on the following issues:

- 1) The trial of mid-water set net deployment. The trial has been suspended without the presentation of the results of the trial.
- 2) As a Key Threatening Process, the SMP has the potential to adversely impact on currently unlisted species. The post-entanglement survival of all released animals is of interest to the FSC and recommends that further studies be undertaken. Furthermore, the FSC is concerned about the fate of threatened species released alive following entanglement. Data obtained by the Department of Primary Industries show considerable differences in survivability between animals caught on longlines, with substantial mortality of some species (Butcher et al. 2015). The FSC is concerned that survivability of threatened species post-capture and release may be low. The Committee highly recommends a targeted study, utilising methods such as satellite or acoustic tagging, on post-release behaviour and survival of threatened species.

The FSC has significant concerns about the scientific and research aspects of the SMP, under-utilisation of resources for the observer program and continued use of resources for the aerial survey program. The observer program is essential to ensure accurate reporting of net captures and species identification. The aerial survey program is acknowledged to be misleading or of little value in the last five annual SMP reports (page 31 of the SMP 2015-16, page 24 of the SMP 2014-15 Annual Performance Report, page 29 of the SMP 2013-14 Annual Performance Report,

page 28 of the 2012-13 Annual Performance Report and page 37 of SMP 2011-12 Annual Performance Report) as well as in Robbins *et al.* (2014).

The data collected during the 2015-16 reporting period showed that aerial surveys “likely result in considerable underestimation of the presence of many of the shark species known to frequent the coastal fringe area”. These data corroborate previous survey results, suggesting aerial surveys are a “relatively inefficient and ineffective method to enhance bather protection from potential shark attack in this region of the NSW coast”. Given this assessment, the FSC reiterates why limited resources are continually devoted to an inefficient and ineffective program. The FSC also notes that because aerial surveys under-report shark presence and abundance, these surveys can mislead the public and lead to a false sense of security.

The failure to analyse any genetic samples to verify species identification from captured individuals, is of particular concern. The FSC reiterates its concerns about individuals recorded as Smooth Hammerhead Sharks, which were the most abundant shark species captured in the program. Such verification is essential for the discrimination of species that are difficult to identify in the field, such as the three hammerhead shark species. The continued lack of genetic verification of identifications is a clear deficiency, and is in breach of the stated line item (2.2. Review genetic samples to compare with reported species identification) in the SMP Strategic Research and Monitoring Program. The FSC does not accept that the establishment of a photographic identification program has negated the requirement for genetic confirmation for species identification (Table 6, section 4), particularly for hammerhead sharks, and questions the emphasis in the annual report on the need for ‘rapid confirmation’. Surely it is the accuracy of the identification that is important, not the rapidity of the confirmation. For hammerhead sharks, there is almost no survival of meshed individuals, so speed of confirmation is not of consequence. While photographs may assist in identifying morphologically similar species, they are not infallible, with photo orientation and quality critical. The FSC would be happy to be convinced of the ‘success’ of the photographic identification program, and some independent data (such as genetic verification) is required. The FSC notes that two collaborative research programs on hammerheads caught in the SMP are underway (sections 3.1.2 and 3.2.1) and would be keen to learn if there is any evidence from these genetic studies to confirm the field species identifications of Smooth Hammerhead Sharks captured in the SMP.

In the interest of more transparent future reporting, Table 7 on ‘Fatal and Serious Shark Incidents’ can be improved by the addition of a ‘non-serious’ shark incidents column. Such a column will improve the ease of interpretation of the balance between serious and other shark attacks.

Yours sincerely

Assoc. Prof. Mark Lintermans
Chairperson
Fisheries Scientific Committee
22 March 2017

References:

Butcher, P.A., Peddemors, V.M., Mandelman, J.W., Mcgrath, S.P. & Cullis, B.R. (2015) At-vessel mortality and blood biochemical status of elasmobranchs caught in an Australian commercial longline fishery. *Global Ecology and Conservation*, 3, 878-889.