

The Hon Katrina Hodgkinson MP
Minister for Primary Industries
GPO Box 5341
SYDNEY NSW 2001



Dear Minister

Re: 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 2013-14 Annual Performance Report. An assessment of the program by the FSC is important because the SMP is listed as a Key Threatening Process for several species of sharks and other non-target species. The FSC has significant concerns in relation to the scientific and research aspects of the SMP and the under-resourcing of the observer program.

The FSC cannot make a rigorous assessment of the outcomes of the scientific and research program based on the superficial nature of the reporting. For example, no detail is provided on the genetic verification or identification of caught individuals. Such verification is essential for the discrimination of species that are difficult to identify, such as the difficulty in distinguishing Smooth Hammerhead Sharks (*Sphyrna zygaena*) from the other two listed species of hammerhead sharks (*Sphyrna lewini* and *Sphyrna mokarran*).

The FSC is concerned that a substantial portion of the allocated observer hours were not used. The observer surveys are an essential tool to assist the validation of species identification. Following the work of Robbins *et al.* 2014, which outlines the poor performance of aerial surveys, the FSC questions the continued diversion of observer funding to aerial surveys. The FSC concurs with the conclusion on page 29 about the ineffectiveness of the aerial surveys and strongly recommends the immediate cessation of this activity. Furthermore, the FSC recommends the return of these funds to the observer program as initially established.

The FSC has found a severe lack of detail in the report. For example, Bull Shark research is highlighted on page 12, but no details of the research outcomes are provided. Similarly, the report states that the scientific literature on spatial and temporal movements on non-target species is regularly reviewed, but again no detail is provided. The FSC recommends that full details of research outcomes are provided.

The FSC notes that the performance indicator for human safety was triggered in 2011-12 by a serious injury resulting from shark attack at Redhead Beach. The FSC has not yet received the report reviewing this incident under section 48 (5) of the Management Plan for the NSW Shark Meshing (Bather Protection) Program. The FSC notes that it is the intention of managers to now incorporate the review of this and other human safety incidents into the 5 year review, but is disappointed at the significant delay in the provision of these types of reports.

The FSC trusts that the superficial reporting of research and monitoring outcomes in annual SMP reports will not be promulgated in the 5-year review report, as without sufficient detail there can be no rigorous review, or transparency in the outcomes of the program. In particular, the Committee would like specific reporting and analyses on the following key issues to be included in the five-year review:

- A rigorous scientific comparison of data within each management zone on shark sightings, shark attacks and beach usage rates between meshed and unmeshed beaches;
- At the individual shark level, more understanding of shark movements around nets and the beaches of NSW. Such data would provide crucial information in the assessment of public safety and the efficacy of nets in preventing shark attacks;
- Whether the mortality rate is related to set time. The Committee would like to know whether mortality is higher in nets set more than the prescribed 72 hour soak time and, if there are any available data on whether mortality is lower for shorter soak times of 24 hours or 48 hours;
- Updated time-series plots (as per Figure 5, Reid *et al.* 2011); and
- A reassessment of the basis for trigger points.

Yours sincerely



Dr Jane Williamson
Chairperson
Fisheries Scientific Committee
17th November 2014

References:

Reid, D.D., Robbins, W.D. and Peddemors, V.M. (2011) Decadal trends in shark catches and effort from New South Wales, Australia, Shark Meshing Program 1950-2010. *Marine and Freshwater Research*, **62**: 676-693.

Robbins, W.D., Peddemors, V.M., Kennelly, S.J. and Ives, M.C. (2014) Experimental evaluation of shark detection rates by aerial observers. *PLoS ONE*, **9**(2): e83456.