

**Senate Standing Committee on Environment and Communications
Legislation Committee**

Answers to questions on notice
Environment and Energy portfolio

Question No: 98
Hearing: Budget Estimates
Outcome: Outcome 1
Program: Science
Topic: Behaviour of Sharks
Hansard Page: 92 and 93
Question Date: 22 May 2017
Question Type: Spoken

Senator Reynolds asked:

Mr Knudson: There are six other studies. As I seem to recall, it is looking at different shark attack mitigation technologies and their effectiveness. That is looking at the behaviour of the sharks in terms of not their level of aggressiveness but how they respond to different technologies being deployed.

CHAIR: Thank you. Just on that, if there is any need to take this on notice and if there is any additional information—you have already got that from New South Wales, for example—I would be grateful. What has also been said to the inquiry in evidence is that the behaviour of the sharks is changing. It now varies. There is variance. So a great white is not just a great white. The different populations of great white are also exhibiting different behaviours. You obviously cannot answer that here, but you could take that on notice.

Mr Cahill: I will take that on notice, including the scope and depth of the New South Wales evaluation.

CHAIR: Thank you. I am grateful.

Answer:

Research into technologies that may reduce shark risk has been delivered through the National Environmental Science Program (NESP) Marine Biodiversity Hub's recently completed CSIRO project '*Status of human-shark interactions and initiatives to mitigate shark risk in Australia*'. This project specifically:

1. reviewed the status of human-shark interactions in Australia,
2. provided a synthesis of current initiatives to reduce risk,
3. reviewed recent international efforts to address these issues and
4. identified knowledge gaps to provide an informed base to determine the most appropriate future research and policy support options.

The project report identified there is a growing body of information on the distribution and movements of bull, tiger and white sharks delivered through research by State Government (Fisheries), various University-based researchers and NESP (and predecessor) programs.

The report noted the link between *encounters* (sharks and people being in the same immediate vicinity) and *attacks* is poorly understood and likely to differ between regions, vary temporally and vary dependent on the motivational status and size of individual sharks. Further, this limits the practicality of attempting to estimate the risk of shark attack from the distribution of sharks alone.

Looking to the future, the report noted:

- the developing long-term data series on movement patterns of bull, tiger and white sharks via acoustic tagging, offer some promise for describing movement patterns and distribution that may assist in understanding the risk of encountering sharks in Australia's coastal waters; and
- tracking distribution and abundance data of sharks tagged under the NESP program will continue to provide a context and sometimes specific data that will help determine whether new technologies are likely to be successful in reducing the incidence of white shark attacks in Australia.

Further information on this project and the report can be found on the NESP Marine Biodiversity Hub website: <https://www.nespmarine.edu.au/document/status-human-shark-interactions-and-initiatives-mitigate-risk-australian-waters>