

Environment and Communications References Committee
ANSWERS TO QUESTIONS ON NOTICE
Commonwealth Scientific and Industrial Research Organisation
Inquiry into Shark Mitigation and Deterrent Measures
20 October 2017

TOPIC: CSIRO funding for shark research

REFERENCE: Hansard, 20 October 2017, Page 12

QUESTION

CHAIR: Okay. For the moment I'm going to assume that they are smarter than I thought they were. In your submission, on page 11, below the introduction you give some specific examples of where CSIRO's research output and advice has been used. There are a number of different programs there. Across all of those programs I'm interested—you could provide on notice details of the individual programs—in where you get your funding from. As I understand the model at CSIRO, you now have sort of client relationships. Who does provide your funding, for example, for the tagging programs? It is state governments? Do you get any federal funding?

Prof. Bax: There are a variety of sources of funding. Most of the white shark work conducted by CSIRO at the moment is supported through the National Environment Science Program and previously was supported by the National Environment Research Program. However, we have also had direct work with the states where the states have funded particular work—like South Australia, for example. There are also much smaller amounts of money coming from a different variety of groups.

Dr Thompson: I would add that the CSIRO invests about 50 per cent of those dollars into those programs, on average.

CHAIR: I suppose where I'm leading with this is—and you should never ask this to anyone doing research—have you got enough money to keep your programs going? I know there are a number of programs and we don't have time to go into it now, but I'd be interested in at least doing some follow-up work with you about your level of ongoing funding and making sure that you have enough to see these programs through.

Prof. Bax: In that context, it should be noted that the CSIRO has worked through the National Environment Science Program now and the precursor for approximately six years and that major project is coming to an end, with the estimates of white shark population to be produced this year.

CHAIR: Surely, what we've learnt today is that once you've got those estimates that's just the beginning point. Then if, for us as policymakers, the key focus is going to be, 'Is the population expanding over time and are there too many, and is that too risky for public safety or is it too little for healthy oceans?'—putting it the other way—your ongoing work is going to be critically important as well. So you're saying that with the NESP, anyway, that's winding up. Where will you get your funding sources for the next stage that is probably, I would say, as critical a stage?

Prof. Bax: There would need to be some funding to support the work in a couple of years. At the moment, with states continuing to collect the information, we almost need to wait until they've collected some more information so that we can update the models and trends. Looking to the future, there will be a need for our continuing engagement in the area, but for the population assessments a lot of the hard work has already been done.

CHAIR: But in terms of changes to trends in those populations, that's just the beginning. Could we get the exact date on when you'll need that funding or when you suspect you'll need that funding—we can get that off you on notice—or when the NESP officially winds up?

Prof. Bax: We can provide you with a more detailed answer. The actual time when the reassessment of the population will need to occur will be something we'll identify this year.

ANSWER

Potential areas for further investigation:

- A suggested focus for additional research would be on ongoing data collection and monitoring to support the determination of population trends. This includes ongoing sampling of white sharks sampled as part of the State tagging programs, those caught in shark control programs, and taken as bycatch in commercial fisheries. Current research will provide a more precise estimate of when the assessment should be updated and further tested for population trend, but practical reasons would suggest reassessment once about 100 new samples have been collected or after 1-2 years. The majority of tissue samples are being taken as part of the State run tagging programs; these programs are critical for obtaining the necessary data to estimate population size and trend, and will ensure the required number of samples to estimate these parameters are obtained in the shortest possible time.
- It may be possible to build a predictive model of shark abundance and location. The NSW DPI, through their tagging program, are amassing a significantly larger data holding on the distribution and movements of white sharks (and other species) than previously available. If the data and modelling can identify a suitable suite of environmental predictors it could be very useful in reducing shark-human interactions. Understanding shark movements to identify behavioural patterns, habitat preferences, and fine-scale residence behaviours of sharks, particularly into highly populated areas, and understanding our ability to detect white shark presence, are key components to understanding human-shark interactions supporting improved management policies and mitigation responses. A continued collaboration with all the States would ensure that collected data are analysed in a consistent way that will support increased precision in estimates of population size, juvenile mortality and trends in adult population size.
- A social survey to determine how the behaviour of water users such as surfers and divers has changed in response to the recent attacks and media reports would assist in understanding the broader social impacts of shark attacks on these at-risk user groups and how to improve communication with at-risk water users in the future.