

NSW Government Response to the Cardno Report

Of the eight recommendations within the Cardno Report, seven are supported and one is noted.

#	Recommendation	NSW Government Response
1	<p>The Shark Program for the future continues to deploy area-based shark bite mitigation gear in areas popular to water users and/or well-known for shark bite as per the Shark Program for 2021/22, supported by research and the SharkSmart education and awareness program, but considers rationalising some of its components (see Recommendations 3, 4, 7 and 8).</p>	<p>Supported</p> <p>The NSW Government will continue to deploy evidence-based shark mitigation measures. The NSW Government is continuing to conduct shark research which will inform any future changes to the program.</p>
2	<p>The SharkSmart campaign of the Shark Program should consider conveying the Government's approach as a three-tiered hierarchy of protection supported by education and awareness:</p> <p>Tier 1 - Perimeter. Reduce spatial overlap between water users generally and target sharks.</p> <p>This is currently done in the Shark Program using lethal (i.e. beach netting in the Metro region) or non-lethal beach protection gear (i.e. VR4G shark listening stations, drones, SMART drumlines) and with research, community education and engagement that results in shark smart human behaviour.</p> <p>Tier 2 - Proximity. Reduce likelihood of shark bite when beach-based overlap between water users and target sharks cannot be avoided.</p> <p>This relies on product development, technology, education and community engagement resulting in greater uptake of existing, effective personal deterrent devices than is current.</p> <p>Tier 3 – Prevent bleeding. Reduce the impacts of a shark bite when one has occurred.</p> <p>This relies on people using puncture- or tear-proof wetsuits or being trained in suitable first aid to prevent death from bleeding.</p>	<p>Supported</p> <p>The NSW Shark Program is consistent with the three-tiered hierarchy and supported by education and awareness activities. Future community education and awareness activities will continue to consider the three-tiered hierarchy and the management of personal risks.</p>

3	The Shark Program continues to undertake, or supports, further research and monitoring (i.e. data gathering, analysis and reporting) of current area-based bite mitigation systems and trialling of emerging area-based bite mitigation systems and personal devices.	<p>Supported</p> <p>An evidence-based approach to shark mitigation in NSW has, and continues to be, strongly supported by the NSW Government. Research and monitoring will continue to inform shark mitigation measures.</p>
4	Issues that may be limiting the effectiveness of VR4G tagged shark listening stations at mitigating shark bite are resolved as soon as possible so that an informed decision can be made about whether to continue to include VR4Gs in the future Shark Program as a risk mitigation tool.	<p>Supported</p> <p>The NSW Government is working to improve the effectiveness of VR4G tagged shark listening stations to optimise protection and ensure they continue to provide benefits as a research tool.</p> <p>The number of VR4G tagged shark listening stations expanded from 21 in 2020/21 to 37 in 2021/22 under the Shark Program, allowing for a VR4G listening station in every coastal local government area.</p> <p>The Department of Primary Industries will continue to work with the SharkSmart app developers and others to improve dissemination of information from the VR4G tagged shark listening stations. An assessment will also be undertaken of the effectiveness and risks of removing this technology, including impacts on shark research and community and local government sentiment.</p>
5	The Shark Program is enacted under NSW legislation and policy that incorporates the entirety of its shark bite mitigation and response strategy (i.e. the SMP, the Shark Incident Response Plan and other Shark Program activities) and to ensure long-term commitment by NSW Government to its operationalisation. The legislation should include specific aims and objectives for the Shark Program that convey to the community the roles of NSW Government and the personal responsibilities of the water users.	<p>Noted</p> <p>The NSW Government is committed to protecting beachgoers from shark interactions.</p> <p>The Department of Primary Industries will undertake investigations into other jurisdictions' approaches to embedding shark management functions into legislation and the merits of such an approach.</p>
6	The Shark Program continues to provide information about the latest developments and suite of independently tested and verified personal deterrent devices and shark-bite resistant materials (if they become commercially available) and improved first aid and trauma treatment by surfers. NSW Government could consider providing a rebate for NSW	<p>Supported</p> <p>The NSW Government will continue to conduct shark research and provide information on shark mitigation measures.</p>

	<p>residents when they purchase an approved personal deterrent or first aid/trauma kit/training and develop, or contribute to the development of, a minimum standard for effectiveness.</p>	<p>The NSW Government's \$0.5 million partnership with Surfing NSW in 2021/22 includes the rollout of first aid training and trauma/first aid kits to member boardrider clubs, surf schools and surf coaches in NSW.</p> <p>The Department of Primary Industries has provided grant funding for projects under the former NSW Shark Management Strategy that investigated personal protection technologies and published related information on the SharkSmart website.</p>
7	<p>The Shark Program develops and implements a monitoring, evaluation and reporting (MER) framework that measures the performance of its key components and that can be used to drive adaptive management when needed. The following indicators are examples of those that could be developed, reported on and reviewed on a biennial basis to monitor the effectiveness of the program:</p> <ul style="list-style-type: none"> • The number of interactions at beaches where area-based mitigation systems are deployed and for a similar period prior to deployment; • The number of interactions at beaches where area-based mitigation systems are not deployed; <p>and, the effectiveness of the 'education and awareness strategy':</p> <ul style="list-style-type: none"> • The uptake and use of personal deterrents, and potentially personal protective wetsuits and knowledge of improved first aid, by surfers; • The uptake of the SharkSmart App; and • Community sentiment within particular areas of the coast and towards particular aspects of the Shark Program. <p>A further indicator is proposed that will improve understanding of how the distribution and abundance of target sharks relates to potential incidents if they occur in the future:</p> <ul style="list-style-type: none"> • Trends in relative abundance and size of White Sharks, Bull Sharks and Tiger Sharks in nearshore coastal areas of NSW (i.e. as spotted by drones, caught by SMART drumlines or caught in SMP nets, standardised by effort). 	<p>Supported</p> <p>An evidence-based approach to shark mitigation in NSW has, and continues to be, strongly supported by the NSW Government. The Shark Program will be informed by ongoing monitoring, evaluation and reporting to support adaptive management of the program.</p>

<p>8</p>	<p>The Shark Program continues to explore potential partnerships in relation to all three tiers in the hierarchy of protection, including co-funding models, with local Councils, community groups and other organisations that would improve shark bite mitigation at a local level.</p>	<p>Supported</p> <p>The NSW Government recognises the importance of partnerships in delivering the Shark Program objectives and will continue to explore opportunities for partnerships and other delivery models.</p> <p>The NSW Government is currently partnering with Surf Life Saving NSW and Surfing NSW to deliver shark mitigation protection and resources.</p> <p>To reduce the impacts on communities who experience a serious or fatal shark bite, the Department of Primary Industries will continue to support the Rural Adversity Mental Health Program and Bite Club to support roll out of mental health and trauma support programs that includes shark education.</p>
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