

Surf lifesaver perspectives on operational challenges and emerging issues, risks and hazards

Peer reviewed

Dr Jasmin C Lawes^{1,2}

ORCID: 0000-0002-6652-3053

Sean Kelly^{1,2}

ORCID: 0009-0009-8518-8148

Dr Amy E Peden²

ORCID: 0000-0002-6424-1511

Shane Daw^{1,2}

ORCID: 0000-0003-0904-3632

1. Surf Life Saving Australia, Bondi Beach, New South Wales.
2. University of New South Wales, Sydney, New South Wales.

SUBMITTED

11 September 2024

ACCEPTED

16 December 2024

DOI

www.doi.org/10.47389/40.4.05



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Introduction

Drowning is a significant cause of preventable injury-related mortality and morbidity globally, regionally and in Australia (Lawes et al. 2023; Peden et al. 2021; World Health Organization 2014). Estimates suggest 300,000 people died from accidental drowning in 2021 (World Health Organization 2024). This number is likely a significant underestimate due to the exclusion of drowning caused by boating incidents and disaster events like flooding (Peden et al. 2017). In 2023–24 in Australia, 323 people died due to drowning (Royal Life Saving Society - Australia 2024) and many more were hospitalised, treated at the scene or rescued by emergency services personnel including lifesaving personnel. In Australia, lifesaving personnel include paid and volunteer surf lifesavers and lifeguards (Surf Life Saving Australia 2024a).

Almost half of the national 2023–24 drowning burden (46%) occurred in coastal waters (Royal Life Saving Society - Australia 2024) with coastal environments having the highest number of drowning deaths since records began in July 2004 (n=150) (Surf Life Saving Australia 2024a). Given the significant contribution of coastal environments to the global and national burden of drowning (Koon et al. 2021; Surf Life Saving Australia 2024a), the provision of supervised swimming or bathing locations by lifesaving personnel is an important preventative and emergency response component of efforts to prevent drowning (Koon et al. 2023).

Surf Life Saving Australia (SLSA) is Australia's peak coastal water safety, drowning prevention and rescue authority (Surf Life Saving Australia 2023b, 2024a, 2024b). SLSA is an iconic organisation that delivers a range of services including coastal water safety, education and development programs, drowning prevention and emergency rescue services (Surf

Abstract

Surf lifesavers are an important component of Australia's emergency workforce. Despite significant coastal safety and emergency response knowledge, surf lifesavers are rarely consulted on coastal issues. This paper reports the findings of a survey of Surf Life Saving Australia members to determine perspectives on current and future coastal issues to better inform future support for members. In the 898 completed surveys, respondents identified 'swimming outside the patrol flags', a 'lack of swimming ability', 'rip currents' and 'increased coastal visitation' and 'extreme weather' as important coastal issues in their area. A total of 61 per cent of respondents felt these issues were changing and there was a need to respond to emerging challenges presented by increased beach visitation, language needs for culturally and linguistically diverse communities, low or poor understanding of beach conditions and surf knowledge, a lack of understanding of the flags and poor knowledge of coastal erosion. Addressing these issues via public education, changes to signage, safety campaigns and training should be considered. The survey findings influence Surf Life Saving Australia practice through development of behaviour change focused public education materials and improved member training. These findings serve as a baseline for repeat surveys in the future to assess change that supports this essential workforce into the future.



SLSA provides programs and workshops that promote leadership and personal growth helping members provide the best-possible service to beachgoers.

Image: Surf Life Saving Australia

Life Saving Australia 2024a). SLSA also facilitates many competitions (at recreational and elite levels) as well as provides a range of leadership, diversity and inclusivity programs for people aged 5 years and above (Surf Life Saving Australia 2023b). The net benefit of SLSA to the Australian community has been estimated at \$97 billion dollars (Deloitte Access Economics 2020). SLSA provides an integrated national surf lifesaving service comprising volunteer surf lifesavers and paid lifeguards, known as the Australian Lifeguard Service. Surf lifesavers and lifeguards are community members who, for over 100 years, have patrolled coastal beaches and kept people safe (Booth 2001; Fien et al. 2021). Surf Life Saving and the iconic red and yellow beach safety flags are embedded into the Australian culture as, historically, personnel have risked their own lives to assist people who are hurt, injured or may be at risk of drowning or other serious injury (Fien et al. 2021; Fien et al. 2023; Surf Life Saving Australia 2024a).

Lifesaving personnel are trained to established standards under the Australian Vocational Education and Training system (Australian Government 2024; Surf Life Saving Australia 2024b). Many state entities also have registered training organisations available through the National Register of Vocational Education and Training. The overarching goal of lifesaving personnel is to prevent drowning and injury of people at the coast and the tasks undertaken by patrolling and non-patrolling personnel expose them to a range of challenges on and off the beach (Fien et al. 2021; Lawes et al. 2021a). Such experiences

highlight that SLSA's lifesaving personnel are a skilled and knowledgeable workforce whose understanding of broader coastal, societal and cultural issues have largely been unexplored. Depending on their experience, surf lifesavers and lifeguards are likely to be extremely knowledgeable about various coastal risks, hazards and issues (e.g. the rip current hazard) (Brighton et al. 2013; Kelly et al. 2025), which they regularly encounter. Unfortunately, this knowledge of, and direct experiences with, coastal risks and hazards is anecdotal and has not been formally captured nor investigated.

SLSA conducts research to provide evidence-informed insights and understanding to improve water safety and practice and to guide education (Cooney 2020; Lawes et al. 2021b, 2021c; Lawes et al. 2020; Lawes et al. 2021d; Reid et al. 2025; Surf Life Saving Australia 2023b, 2024a). Surf lifesavers and lifeguards are frontline responders to all incidents that occur along the Australian coastline (Kelly et al. 2024; Koon et al. 2023; Lawes et al. 2021e; Lawes et al. 2020; Reid et al. 2023; Reid et al. 2025) and they have a wealth of practical experience and knowledge in coastal safety and emergency response. Despite this, their contribution has rarely been considered when reviewing coastal safety risks and issues as well as when determining priorities for investigation and blackspot areas. The exclusion of their input is a missed opportunity, particularly in developing future risk mitigation strategies, appropriate and relevant educational material and identifying high-risk demographic groups.

This study investigated the perceived challenges and emerging coastal issues that surf lifesavers and lifeguards face while on patrol across Australia's 11,000 mainland beaches (Short 2006). Specifically, the objective of this study was to document surf lifesaver and lifeguard knowledge and experiences including:

- understanding perceived current coastal issues
- perceived emergent coastal issues
- perceptions whether issues are changing
- knowledge and understanding of available information
- what may need to change to address future coastal safety concerns and meet the needs of the community.

The findings of this study provide valuable information to assist the development and delivery of relevant future beach safety interventions that protect beachgoing communities in Australia.

Methods

This study was a cross-sectional analysis of anonymous survey data collected from SLISA members between 15 February and 30 April 2018. Repeated surveying of the cohort was interrupted due to the COVID-19 pandemic, so this study provides a baseline against which future surveys can be assessed.

Survey design

An online survey included questions designed to identify national and regional coastal safety issues and concerns as perceived by surf lifesavers and lifeguards. The aim was to inform future strategic actions within SLISA and the surf lifesaving movement. The survey was developed in collaboration with its other departments and was tested by staff prior to being promoted. The survey consisted of 10 closed- or open-ended questions and sought information on topics including:

- member demographics (i.e. position within surf lifesaving, gender, local government area or council area where services were delivered)
- perceptions of current issues on the coast in their area (i.e. coastal hazards, beachgoer activities and other issues such as mental health, violence and language barriers) ranked on a 5-point scale from not an issue (scored as 1) to a severe issue (scored as 5)
- respondents' perceptions regarding whether these issues were changing or if new issues were emerging in their area of service delivery.

For survey questions with multiple-choice response options, an additional text field was provided to allow further details to be added if respondents wanted to. The survey also asked respondents for their views on public visitation to the coast in their area, how often they receive

questions from the public about coastal safety, if they feel they have the right information to be able to respond to such questions and their level of awareness and knowledge of latest trends and information on coastal drowning incidents. Respondents were asked if they felt changes were needed to address future coastal safety concerns and the needs of the community.

Recruitment and sample collection

The online survey platform, Survey Monkey, was used to collect responses. The survey ran from 15 February to 30 April 2018. The survey was emailed to all SLISA members who had previously elected to receive email communications. It was also included in SLISA's monthly newsletter, which is sent via SLISA's direct mail database. The newsletter included the survey link and described the purpose of the survey, what was being asked of respondents and that responses would be anonymous.

The SLISA patrolling membership included members from all states and the Northern Territory. When the survey was conducted, membership comprised 61% male and 39% female members (Surf Life Saving Australia 2018a). Any person who received the invitation to participate could respond and no inclusion or exclusion criteria were applied. Respondents were not reimbursed for their participation in the survey.

Data cleaning, coding and analysis

The survey averaged 5 minutes to complete. All survey results were exported into Microsoft Excel for analysis. Descriptive analyses were used for most questions and responses were post-weighted for questions where responses were scalable. For issues where level or concern or severity were rated on a 5-point scale, these ratings were converted to numeric values (1 to 5) and given an average score out of 5.

Data from the open text questions were analysed using a qualitative thematic analysis approach (Castleberry and Nolen 2018). The survey responses were thematically coded into overarching categories via dual independent coding following the process outlined by Braun and Clarke (2021). This process included responses being read and reread with initial codes and themes generated separately by each coder. Themes and codes were reviewed and condensed through an iterative coding process and resulted in the development of the overarching themes (Braun and Clarke 2021).

Ethics

Human research ethics approval for the analysis of the survey data was granted by the University of New South Wales Human Research Ethics Committee (approval number: HC230179). The University Ethics Committee

granted a waiver of consent to use anonymous data for the purposes of a secondary analysis.

Results

The survey was sent to 125,869 SLSA members. A total of 1,007 responses were received with 898 being fully completed. These were included in the final analyses (0.7% response rate, 89% completion rate).

Sample demographics

Nationally, 81% of respondents were surf lifesavers, 5% were lifeguards and 14% held both roles (i.e. were both surf lifesavers and lifeguards). Most respondents were male (n= 691, 77%) and the majority of respondents were from New South Wales (n=393, 44%) followed by Queensland (n=194, 22%) and Victoria (n=121, 13%). These demographic distributions were broadly in-line with service distribution nationally as shown in Table 1.

Perceptions and attitudes about coastal issues

When asked ‘What do you perceive as current issues on the coast in your area?’, the multiple-choice option of ‘swimming outside the patrol flags’ ranked as the number one selection by respondents with a weighted average of 3.32 out of 5. This was followed by ‘a lack of swimming ability’ (weighted average of 3.17), ‘rip currents’ (a weighted average of 3.14) and ‘increased coastal visitation’ and ‘extreme weather’ (a weighted average of 2.56, respectively). Other issues were assessed as being of moderate to minor concern (see Figure 1).

These responses differed by state and territory. Swimming outside the red and yellow on-beach flags was the top-rated issue of concern in Queensland, South Australia, Tasmania, Victoria and Western Australia. The top concerns of New South Wales were rip currents that outranked swimming outside the flags. In the Northern Territory, marine creatures, alcohol/drugs and extreme weather made up the top 3 selections. Surprisingly, swimming outside the flags did not appear in the top 5 issues of concern in the Northern Territory. The lack of swimming ability and mental health issues were fourth and fifth place, respectively (see Figure 2).

When asked ‘Are the coastal issues in your area changing or are there new issues emerging? If yes, please detail’, more than half of respondents reported that the coastal issues in their area were changing (n=550, 61%) and a third of respondents thought that they were not (n=336, 37%). Of those respondents who considered the coastal issues in their area were changing, increased visitation was identified by almost half (n=243, 44%) as the number one emergent issue for coastal areas, followed by thematic codes of increasing visitation by multicultural or culturally and linguistically diverse (CaLD) communities (n=95, 17%), low/poor understanding of beach conditions/surf knowledge (n=90, 16%), lack of flag awareness (n=66, 12%) and coastal erosion (10%). Figure 3 is a word cloud that represents the weighting of the concerns resulting from the survey.

Knowledge, information and community engagement

Table 1: Demographic profile of survey sample and broader Surf Life Saving Australia patrolling members as at 2018.

	Survey sample		SLSA patrolling members (as at 2018)	
	N	%	N	%
Total	898	100.0	42,740	100.0
Female	204	22.7	16,274	38.1
Male	691	76.9	26,459	61.9
Other/unknown	3	0.4	7	0.02
Position within SLS				
Surf lifesaver	724	80.6	-	-
Lifeguard	49	5.5	-	-
Both	125	13.9	-	-
State or territory of residence				
New South Wales	393	43.8	18,903	44.2
Queensland	194	21.6	8,792	20.6
Victoria	121	13.5	6,635	15.5
Western Australia	90	10.0	4,813	11.3
South Australia	56	6.2	2,693	6.3
Tasmania	26	2.9	746	1.7
Northern Territory	14	1.6	158	0.4
Unknown	4	0.4	-	-

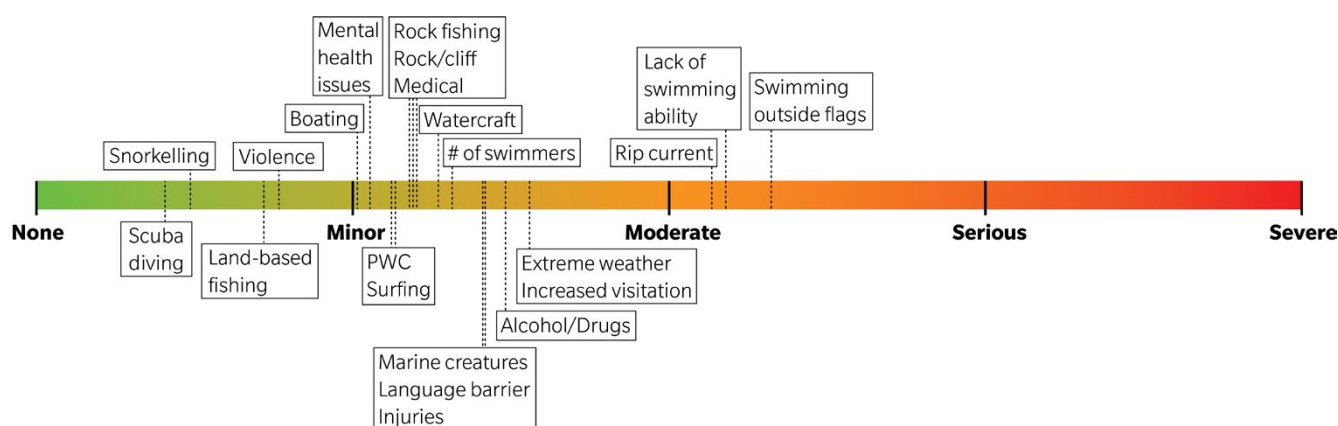


Figure 1: Current coastal issues identified by SLSA members weighted by importance.

When asked ‘How do you perceive public visitation to the coast in your area?’, most respondents (n=701, 78%) reported a perceived increase in public visitation to their local coastal area while 15% reported no change (n=136) and 1% reported a perceived decrease (n=11). Five per cent of respondents reported other changes (n=48) and the dominant change included increased visitation by tourists and people of CaLD background.

To explore surf lifesaver and lifeguard interactions with communities, respondents were asked ‘On average, how often do you receive questions regarding coastal safety from the general public?’. A third of respondents answered at least once per day (n=324, 36%) and 56% answered at least weekly (n=500). Interestingly, 1 in 10 (n=74, 8%) reported that they never receive questions from the public. When asked ‘Do you feel like you have the right information or knowledge to address safety questions of

the public?’ most respondents felt that they did (n=826, 92%) while 6% were unsure (n=50) and 2% felt that they did not have the right knowledge or information (n=22).

Future perceptions for change

To understand what surf lifesavers and lifeguards felt was needed in the future they were asked ‘Do you feel that changes are necessary to address future coastal safety concerns and meet the needs of the community?’. Thematic coding showed public education was identified by 84% (n=753) respondents as the most important area that would address future coastal safety concerns. This was followed by changes to signage (n=528, 59%), safety campaigns (n=478, 53%) and training (n=351, 53%). Figure 4 shows the areas of activity that would improve public safety at beaches and waterways.

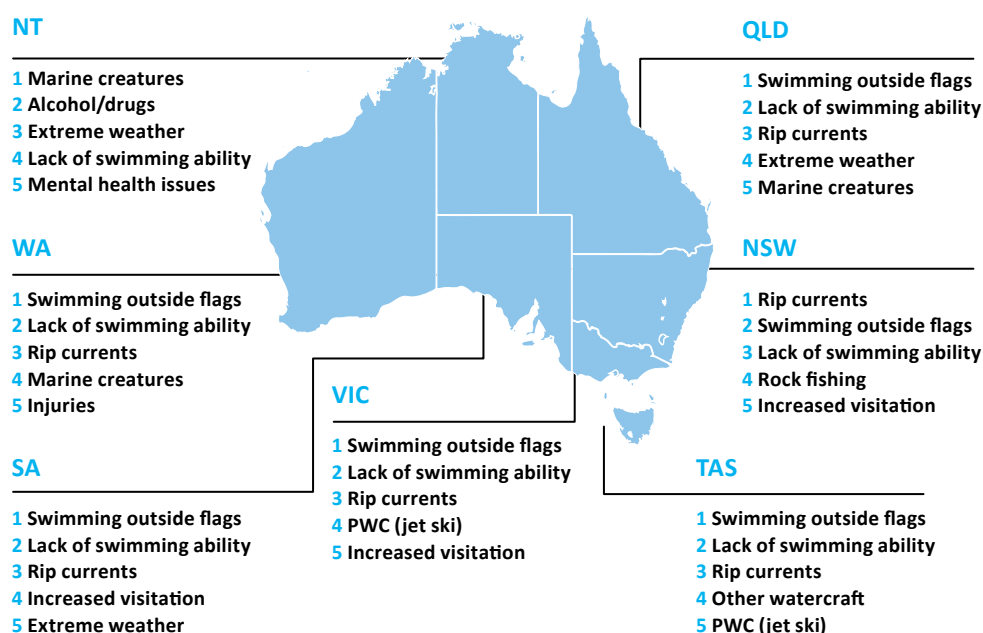


Figure 2: Overview of the top 5 coastal issues by state and territory.



Figure 3: Issues that are perceived to be changing at beaches around Australia.

Discussion

Australia benefits from the provision of an integrated national surf lifesaving service that includes volunteer surf lifesavers and paid lifeguards, who interact directly with the public and other emergency response services (Kamstra et al. 2023). This study addresses this knowledge gap and acknowledges the importance of workforce consultation that occurs more broadly across Australia's emergency response sector (Chong et al. 2022).

The concepts identified by respondents were not surprising and generally were well aligned with the strategic direction of the surf lifesaving movement (Surf Life Saving Australia 2018b, n.d.). Specifically, the identified need to support new (or update existing) public education programs to address future coastal safety issues aligns with the strategic priority to develop and support people by delivering educational programs that meet the needs of

the community (Surf Life Saving Australia 2024a). Since this survey, progress has been made with the development, review and delivery of school- and CaLD-specific programs, which are available across some states (Surf Life Saving New South Wales, n.d.; Surf Life Saving South Australia n.d.). Next, formally evaluating these resources will improve understanding of their acceptability and efficacy among specific cohorts.

Safety campaigns were also prioritised and SLSA has completed a 5-year national awareness campaign, which targeted rip current awareness and behaviour change (Cooper et al. 2021; Surf Life Saving Australia 2021). A focus on rip currents is important as the number one coastal hazard in New South Wales (Brander et al. 2013; Brighton et al. 2013; Cooper et al. 2021; Kelly et al. 2025). Similarly, public education on the importance of swimming between the red and yellow flags at patrolled beaches is warranted given respondent views of the importance of

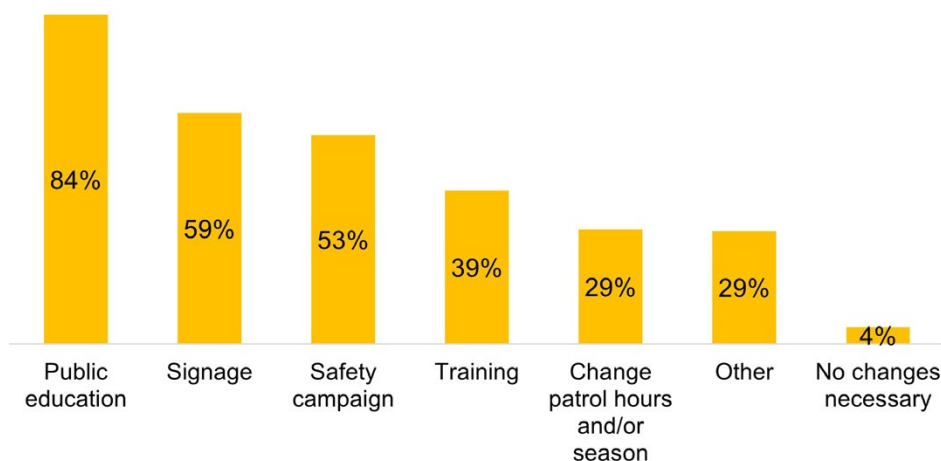


Figure 4: Changes that respondents identified as necessary to address coastal safety concerns and meet the needs of the community.

Note: Respondents could select multiple options.



Surf life savers monitor surf conditions at many of Australia's beaches to keep beachgoers safe.

Image: Surf Life Saving Australia

the issue and the high drowning rates of people swimming in waters outside of the flagged areas (Koon et al. 2023; Surf Life Saving Australia 2023a; Uebelhoeer et al. 2022). Given the small number of patrolled locations relative to the size of Australia's coastline (Surf Life Saving Australia 2024a) and potential risks of overcrowding at patrolled locations during high-usage periods, consideration of alternative approaches to provision of trained supervision or community education may be warranted. Future surveys could seek feedback from the SLSA membership on alternative ways to promote water safety such as alternative patrolling methods, alternative messaging and on-site education (Kamstra et al. 2023).

Education

Public education in the form of safety videos shown on domestic and inbound flights to Australia have been introduced as have coastal safety awareness materials promoted at airports designed to raise the awareness of incoming visitors (Cooper 2019a, 2019b; Hogg 2017). Public education remains an important component of preventing drowning and improving coastal safety (Koon et al. 2021) particularly given the plateauing drowning rates on Australia's coast (Koon et al. 2023). Most public education material relating to water safety is passive and broad. However, research by Cook et al. (2024) highlighted the importance of normative learning approaches for

educational outcomes that result in behaviour change within the community.

Training resources available to surf lifesavers and lifeguards are reviewed regularly (Surf Life Saving Australia 2020, 2024b) and are streamlined to be effective. These resources equip SLSA personnel with the tools they need to provide the best-possible service to beachgoers. SLSA members are encouraged to participate in programs and workshops that are developed to promote leadership and personal growth (e.g. Surf Life Saving Australia 2024c). This can enhance service delivery and community cohesion between members and lifesaving clubs.

Extreme weather

Respondents rated 'extreme weather' as the fourth leading coastal issue. Repeated delivery of the survey may help to assess any changes in the perceived importance of extreme weather as a coastal issue in recent years, particularly with increasing awareness of changing climates in Australia (Hase et al. 2021) and consequences seen among other first responders (Kyron et al. 2022). Specific to the coastal environment, surf lifesaver and lifeguard views would be important to reassess given recent flood, heatwaves and bushfire events that influence membership (Lawes et al. 2021e; Peden et al. 2022).

Extremes in climate conditions, in particular heatwaves, are likely to result in increased coastal visitation as people

seek to cool off in the water or close to the coast where temperatures can be cooler (Peden et al. 2024). Integrating existing tools, such as survey data and using new technology, such as mobile phone data, to understand visitation patterns indicates that visitation is increasing. This is leading to higher drowning risk (Lawes et al. 2021b) as more people are exposed to coastal hazards more often. Surf lifesavers and lifeguards are seeing these changes and survey respondents indicated that increased visitation is the equal fourth most important coastal issue with significant management implications. More people in the water increases the risk of rescue and amplifies the demands placed on lifesaving personnel, which, if not managed appropriately, may lead to workforce fatigue, including burnout. It remains to be seen what can be done to support personnel amid this challenge, though improving public education will hopefully lead to improved safety behaviours on the beach.

Surf Life Saving Club resilience and preparedness

SLSA seeks to understand the ongoing risks and resilience of the Surf Life Saving movement. SLSA supported by consultants, ResilientCo and Meridian Urban, completed a national disaster preparedness project along Australia's coastline. A project was funded from 2022 to 2025 (National Emergency Management Agency n.d.) to assess the consequences of natural hazard events on the operational capacity and capability of Surf Life Saving clubs. The project included a national exposure assessment that determined baseline natural hazard exposures for all 315 clubs in Australia. This project also conducted 50 site-specific assessments with members of clubs across different natural hazard risk profiles to determine a suite of recommendations that improve resilience of the SLS movement. This culminated in an interactive SLSC Disaster Resilience Workbook (SLSA 2025) that guides clubs through a self-assessment process, covering exposure to 4 major natural hazards of bushfire, cyclone, flood and coastal erosion. This workbook enables clubs to build a tailored profile of their risks, explore recommended actions and plan improvements to their facilities and services. The project highlighted opportunities for clubs to strengthen their emergency response capabilities to provide additional support to emergency services organisations and the community.

Mental health

Although rated lower down the list, aside from in the Northern Territory, mental health was an important issue identified in the survey. SLSA members had responded to incidents of self-harm and suicide at coastal locations (Lawes et al. 2021a) and there is a need to support the mental health of members (Fien et al. 2021; Stewart et al. 2024). This has been acknowledged in other emergency services

cohorts (Kyron et al. 2021). Future surveys of members could monitor any changes in views related to mental health and identify and address supports for members.

This research addresses this gap in understanding and it confirms the need to consult with surf lifesavers and lifeguards to identify and analyse emerging issues. It reinforces what was previously only anecdotally understood; that frontline perspectives and experiences are invaluable and can provide an holistic view of coastal safety issues. Although issues ranged from minor to moderate (no issues ranked as severe), regularly repeating these surveys will identify any movement in issues or new issues. This allows SLSA to support its members over time. Further qualitative data collection with members may provide additional insight into member perspectives that support the survey findings.

Strengths and limitations

This study sought and reports on the views of a highly skilled and knowledgeable section of the emergency services workforce who have traditionally not been consulted on issues of coastal safety. The views of surf lifesavers and lifeguards are vital to inform decisions about resources that support members to perform their roles better.

There are limitations in that this survey represents a cross-section of the SLSA membership in 2018. The survey provided a convenience sample and, thus, the views of respondents may not be representative of the entire SLSA membership. This survey was conducted in 2018 and has not yet been conducted again. It is recommended that the survey be repeated in coming years to provide up-to-date information on the views of surf lifesavers and lifeguards, using this initial survey as a baseline against which to assess change.

Data relating to age and years of service of respondents were not collected. As all respondents were qualified surf lifesavers or lifeguards, their expertise and insights were valuable. However, future studies may ask questions relating to years of service and additional qualifications. This would allow for the stratification of responses by these variables to investigate if there are variations in responses by experience level.

Conclusion

The lifesaving role of surf lifesavers and lifeguards in Australia is an important one, yet this cohort is rarely engaged with nor consulted on beachgoer issues. This study reported the findings of the first survey of SLSA members in 2018 that determined their views on current and future coastal issues. Findings informed coastal safety interventions and tools to support the workforce. It is recommended the survey be repeated, using the current study as a baseline to assess change. Ongoing research will

provide the data and information that will better meet the changing needs of this specialist section of the emergency services workforce in Australia.

Acknowledgments and disclosures

The authors acknowledge Eveline Rijksen and April Ryan for their conception and collection of the data as well as for conducting the preliminary analyses. They also thank the anonymous reviewers for their invaluable feedback during the preparation of this manuscript.

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About the authors

Dr Jasmin Lawes is the National Research Manager at SLSA and is passionate about applied science and education that builds relationships. Her research combines field-based and epidemiological approaches to understand human-environment interactions and to inform policy and public safety initiatives that shift the way risk is perceived.

Sean Kelly is a research assistant at SLSA. He has a background in epidemiology, biostatistics and public health research. His research focuses on the intersection of health and natural environments, including drowning and injury prevention with an interest in the effects of climate change on human health outcomes.

Dr Amy E Peden is a drowning prevention researcher and Senior Research Fellow in the School of Population Health, University of New South Wales. She works with drowning prevention organisations and government departments.

Shane Daw ESM is the General Manager – Southern Region, SLSA Helicopter Rescue Service and is responsible for national strategic direction. He has 30+ years' experience within surf lifesaving in research, operations, coastal risk management and strategy. He has extensive experience as a rescue practitioner, including in helicopter operations.