



SLSA Personal Protective Equipment (PPE) Project Executive Summary – Surf Sports

May 2015



Executive Summary

1. Surf Life Saving Australia (SLSA) has conducted this project to identify and develop suitable and fit for purpose Personal Protective Equipment (PPE) solutions that minimise risk to SLS members health and safety when they are participating in core SLS activities.
2. An independent assessment of surf sport related injury in Australia conducted by the University of New South Wales is attached (Appendix 1).
3. The primary risk aiming to be mitigated via the employment of PPE is the catastrophic risk of drowning following incapacitation via a range of root causes and mechanisms.

Background

4. The PPE project commenced following the tragic death of Saxon Bird at the 2010 Australian Championships in Queensland. The subsequent Coroner's findings recommended:

"..that SLSA collaborate with the designers of such devices (floatation vests) with a view to making the wearing of them compulsory once the organisation is satisfied they are suitable. Consideration should also be given to the use of helmets by competitors in surf craft events", QLD State Coroner Barnes (August 2011)

The SLSA PPE Project represents the organisations response to this recommendation.

5. SLSA have considered the use of PPE in a holistic risk management framework. A great deal of other risk control measures beyond the scope of this project has occurred that reduce risks to members. The use of PPE is recommended to further minimise the residual risks that exist following the implementation of these controls. This approach recognises that PPE is the least effective, though still important, component of the hierarchy of controls for risk mitigation.
6. When selecting and considering the use of PPE for use, SLSA are required by Safe Work Australia to:
 - Conduct a detailed evaluation of the risk and performance requirements for the PPE
 - Assess the compatibility of PPE items where more than one type of PPE is required
 - Consult with suppliers to ensure the PPE is suitable for the work and workplace conditions
 - Preference PPE that complies with the relevant Australian Standard or equivalent standard
7. Although other types of PPE and various devices were considered in initial stages of the project and their research and development was monitored, the project has focused on the development of fit for purpose *Lifejackets* and *Surf Helmets* as defined in Coroner Barnes' recommendation.

Process

8. The process undertaken by SLSA to satisfy the requirements and deliver technical specifications for fit for purpose PPE has been conducted with broad consultation of the membership and industry through various mechanisms including online and face to face surveys, laboratory testing, field testing, stakeholder workshops, working group and committee meetings.
9. Key milestones were achieved through this process that answered several key research questions necessary to inform the development of fit for purpose Technical Specifications. These milestones included:
 - a) Defining the risk and performance requirements (fit for purpose criteria) for both lifejackets and surf helmets.
 - b) Identifying that Level 50 Lifejackets were not suitable for use in the surf zone particularly on non-powered craft. (Appendix 2)
 - c) Identifying the minimum buoyancy requirements for low buoyancy lifejackets. (Appendix 3)
 - d) Developing and testing a draft Australian Standard for Level 25 (low buoyancy) Lifejackets. (Appendix 4)
 - e) Delivering and testing a draft Technical Specification for Surf Helmets. (Appendix 5)
 - f) Delivering and testing a draft Technical Specification for Level 25 Lifejackets. (Appendix 6)

Consultation

10. SLSA have undertaken consultation with membership and key decision makers to inform the development of the final policy recommendations. This consultation has included an online member survey open to all members of the movement over 18 years of age conducted by Ballarat University (Appendix 7), face to face surveys conducted by James Cook University (Appendix 4), meetings and workshops with member representative organisations, working groups and committees as well as informal consultation through regular interaction with members.
11. The key outcomes of consultation with members that specifically inform the development of appropriate policies include:
 - a) Ballarat University found on surveying 2,552 members that the concept of compulsory surf helmet and lifejacket wearing was generally acceptable to the membershipⁱ:
 - I. 76.1% said they would regularly wear a lifejacket if it was compulsory (n=1,182)
 - II. 73.5% said they would regularly wear a surf helmet if it was compulsory (n=1,593)
 - b) There is broad resistance to the wearing of PPE during low risk surf conditions
 - c) Only 14% of the 158 members surveyed by James Cook University disagree or strongly disagree with the mandated wearing of PPE during conditions of heightened riskⁱⁱ
 - d) James Cook University noted that anecdotally the vast majority of members surveyed would comply with mandatory PPE wearing policies under conditions of heightened risk *in lieu* of leaving the sport.
 - e) The effectiveness of each control (lifejackets & surf helmets) should be considered in policy development
 - f) There is greater resistance to the wearing of both a lifejacket and surf helmet together during conditions that participants cannot generally accept that suitably high risk conditions are prevailing

Effectiveness of Controls

12. It is recognised that that the Level 25 Lifejacket provides a more effective control against the risk of drowning compared to surf helmets. This assessment notes that surf helmets provide limited effectiveness against concussion and ensuing reliance on a lifejacket to retain the person on the water's surface to support an efficient recovery. It is also recognised that the lifejacket provides additional protection for the wearer regardless of the mechanism that renders them unconscious.

Surf Hazard Rating System

13. During the 2014/15 season, the SLSA Board's initial PPE Policies regarding the wearing of approved Surf Helmets in Surfboat activities under conditions of heightened risk came into effect. Consultation with membership and the Australian Surfboat Rowers League (ASRL) has underpinned the broad success of this policy based on the use of the Bond University developed *Surfboat Hazard Rating System (SHR System)*. The 2013/14 phase final report is attached (Appendix 8).
14. The SHR System research project and component conditions assessment tool has informed the setting of evidence-based thresholds where the wearing of helmets becomes mandated, and development of an acceptable procedure for assessment of prevailing surf conditions to inform decision makers. This process has been supported by the ASRL membership and provides a template for the development of appropriate and acceptable thresholds for the use of PPE across other disciplines. It is highly recommended that work to develop risk assessment tools and identify appropriate thresholds for the wearing of PPE is undertaken prior to the introduction of any further mandatory wear policies. The 2014/15 phase final report is attached (Appendix 9).

Surf Helmet and Level 25 Lifejackets

15. The final Technical Specifications for both Surf Helmets (Appendix 5) and Level 25 Lifejackets (Appendix 6) deliver products that comply with the risk and performance requirements identified by SLSA for use in surf life saving activities. These are presented for endorsement pending the publication of their associated Australian Standards.
16. Consultation and field testing highlighted that board paddlers held concerns with the designs of available and approved surf helmets adversely impacting comfort on their neck position while conducting the required biomechanical movements of the skill set. Further research and development is necessary to ensure that designs of surf helmets for board paddlers are acceptable for this user group.
17. Consideration was also given to the preferred colours for both high-visibility vests. The SLSA Water Safety Policy and Procedure currently allow for the wearing of rash vests in any *conspicuous colours* the dominant colour used has

become pink. Consultation with stakeholders through the PPE Project has identified a desire by some to ensure that the colour choice employed in policies considers the most visible colour to be seen underwater. Currently the policies are focused on visibility above the water. There are sound reasons for multiple colours needing to be worn while undertaking different SLSA activities and to support the smooth running of these activities. For example, water safety, lifesavers, lifeguards, judges, and participants in different age groups or disciplines may wear different colours. It may also be a requirement for judging. It is recommended that the current high-visibility rash shirt policies allowing the use of a range of colours within the defined spectrum be retained considering the practical benefits of this position.

18. Aside from surf helmets in board activities, no other undesirable or significant barriers to the use of surf helmets and/or lifejackets were noted across other craft disciplines (surfboat, surf ski, IRB) though different conditions thresholds for their use may be required to garner acceptable use and support from the membership.
19. The project team and SLS management have also been requested by the SLSA Board to provide recommendations on how these devices could reasonably be incorporated into SLSA policies and procedures to minimise risks to members as low as reasonably practicable. This process recognises the cultural and personal appetite of individuals to reasonably accept the use of these devices while supporting and promoting the achievement of key objectives.

Policy Development

20. It is reasonable to recommend that policies regarding the wearing of level 25 lifejackets and surf helmets be mandated in craft activities under conditions of heightened risk, noting the further consideration required for surf helmets in board activities.
21. In order to implement policies mandating the wearing of level 25 lifejackets and surf helmets under conditions of heightened risk, it is necessary to consider the following issues that affect timelines and implementation plans:
 - Timelines to finalise and publish the revised Australian Standard AS4758
 - Procedural timelines to certify and accredit new devices
 - Providing reasonable notice to membership
 - Manufacturing, shipping and distribution limitations
 - Definition of appropriate thresholds for wearing of PPE
 - Development of risk assessment tools and associated education requirements
 - Financial impact
 - Communications
 - Cultural resistance

Consideration of these aspects has led SLSA management to recommend a phased approach over 3 years.

22. The following table outlines the key objectives in each year of a recommended 3 year implementation plan:

Year	2015/16 Season	2016/17 Season	2017/18 Season
Key Objectives	<ol style="list-style-type: none"> 1. Define thresholds for heightened risk 2. Enhance the SHR System for craft activities 3. Develop tools and training systems for SHR system 4. Highly recommend use of PPE where available 5. Communicate the policies and key concepts to aid implementation 	<ol style="list-style-type: none"> 1. Mandate the wearing of Level 25 Lifejackets for defined craft activities beyond defined heightened risk thresholds 2. Highly recommend use of PPE where available 	<ol style="list-style-type: none"> 1. Mandate the wearing of Surf Helmets for defined craft activities beyond defined heightened risk thresholds 2. Highly recommend use of PPE

23. It is a reasonable assumption that lifejackets and surf helmets will be purchased by individuals who wish to participate in surf sport activities. In some cases where resources are available, organisations may choose to purchase this equipment on behalf of their participants. A conservative financial assessment of the implementation of lifejackets and surf helmet policies across all disciplines indicated that the total cost of these policies is approximately \$1.934m AUD.

Cultural Change and Communications

24. It is recognised that this is a significant cultural change for the movement, and appropriate activities should be undertaken to not only communicate the policy positions and promote understanding of the PPE itself, but should

also aim to promote positive perceptions of the devices in order to minimise resistance to their use. Ideally, promoting the benefits that are provided to the individual through their use and demonstrating their minimal impact on performance. The organisation will give due consideration to this aspect in the development of a detailed communications and implementation plan following the confirmation of policies.

Monitoring and Evaluation

25. It is essential that a monitoring and evaluation program be developed to inform continuous improvement processes, and that this information is considered by an appropriately skilled committee to develop any necessary changes. Monash University have been engaged to conduct this process during the 2014-15 season in assessing the impact of surf helmet policies in surfboat and IRB activities, as well as level 50 lifejackets in IRB competition and operations. Their final report will be due to SLSA in August 2015 following the completion of the IRB Competition Season. Should their report be acceptable to SLSA it is recommended that they are engaged for ongoing monitoring and evaluation of safety policies for the duration of the implementation plan.

Assumptions

26. It is assumed that the following key activities will be completed according to schedule in order to implement the recommendations as defined of this report:
 - a. Publication of the revised Australian Standard *AS4758 Lifejackets* by 1st August 2016.
 - b. Research and consultation is undertaken to define appropriate and evidence based thresholds for *heightened risk* with recommendations provided to the Board prior to 1st May 2016.
 - c. Further testing of the Level 25 Lifejackets are conducted under conditions of *heightened risk* in consultation with athletes.
 - d. A suitable supply of approved lifejackets are available to the membership from 1st April 2016.
 - e. Risk assessment procedures, tools and education requirements are developed and trialled over the 2015/16 season to assist determination of heightened risk.

Summary of Recommendations

Based on the assessment of available evidence, consultation with members and key stakeholders, information contained in the final PPE Project Report for Surf Sports, and the consideration of SLSA Management the following recommendations are provided to the SLSA Board:

1. That the wearing of SLSA approved **Level 25 Lifejackets** is **mandated** in surfboat, surf ski, and board competition during periods of **heightened risk** as determined through a recognised risk assessment.
 - a) The risk assessment process and precise heightened risk threshold is to be determined through a research project and consultation with stakeholders during the 2015/16 season.
 - b) That the policy be introduced for all specified disciplines from 1st October 2016.

Note: Junior Development Activities are not included in this recommendation - refer to Recommendation 9 noting further research.

2. That the wearing of SLSA approved **Surf Helmets** is **mandated** in surf ski and IRB competition during periods of **heightened risk** as determined through a recognised risk assessment.
 - a) The risk assessment process and precise heightened risk threshold is to be determined through a research project and consultation with stakeholders during the 2015/16 season.
 - b) That the policy be introduced for IRB disciplines from 1st October 2015.
 - c) That the policy be introduced for surf ski disciplines from 1st October 2017.

Note: Surfboats have already adopted mandatory wear policies for surf helmets.

3. That the wearing of Surf Helmets and Level 25 Lifejackets is **recommended** in both formal and informal craft training sessions (surfboat, surf ski and board) and incorporated into the SLSA Water Safety Policy.

4. That SLSA amend all necessary policies, rules and guidelines to accommodate the introduction of PPE including the development of a unified SLSA Policy on PPE to consolidate changes currently established via Circulars and Bulletins.
5. Endorse SAI Global as SLSA's agent to manage the accreditation and compliance process for proposed Surf Helmets and Level 25 Lifejackets utilising the relevant SLSA Technical Specification, Australian Standard and European Standards to inform certification procedures.
6. Endorse the SLSA Technical Specification for Surf Helmets.
7. Endorse the SLSA Technical Specification for Level 25 Lifejackets *pending* publication of the revised Australian Standard for Lifejackets AS4758:1-3 (2015).
8. Engage Monash University to continue its monitoring and evaluation program for safety policies implemented in surf sports activities to inform continuous improvement processes overseen by an Operational Risk Working Group PENDING delivery of an acceptable report for their 2014/15 project.
9. That SLSA conduct further consultation and research be conducted to investigate the use of PPE in lifesaving operations and junior development activities.