



# 2010 AUSTRALIAN WATER SAFETY CONFERENCE

ACT TODAY FOR 2020  
PREVENTING DROWNING

Program and Proceedings  
Novotel Brighton Beach, Sydney  
May 2010

PROUDLY SUPPORTED BY



The Australian Government is proud to support efforts to reduce drowning and water related accidents in our communities.

## PRODUCTION

2010 CONFERENCE PROGRAM  
AND PROCEEDINGS

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# 2010 AUSTRALIAN WATER SAFETY CONFERENCE

## Program & Proceedings

### AUSTRALIAN WATER SAFETY COUNCIL

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Disclaimer: The Conference Program and Presentation Papers were correct at the time of printing however presentations and/or presenters may change due to circumstances beyond the control of the organisers, which may necessitate substitutions or alterations to the conference program.

Information presented in the papers contained in this document do not necessarily reflect the views of the Australian Water Safety Council nor the Editors and Conference Organising Committee.



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# FOREWORD

## THE HON KATE ELLIS MP MINISTER FOR EARLY CHILDHOOD EDUCATION, CHILD CARE AND YOUTH MINISTER FOR SPORT

There are few things more heartbreaking than an injury or death that could have been prevented, especially when the victim is a child.

That's why the Australian Government is keen to support efforts to reduce drowning and water-related accidents throughout our island nation.

This year's Australian Water Safety Conference will provide a valuable forum for the water safety industry to share knowledge, experience and research so that we can better target our drowning prevention measures.

The Australian Government is working within the objectives of the Australian Water Safety Strategy 2008-11, which commits \$37 million over four years to projects that support the efforts of national water safety organisations.

It is through this innovation and the continuing work of all water safety organisations that we can continue to reduce the number of preventable drownings in Australia.

I look forward to continuing to work with the Council and do all we can together to keep Australians safe in the water.

A handwritten signature in black ink that reads "Kate Ellis". The signature is written in a cursive, flowing style.

**THE HON KATE ELLIS MP**  
*Minister for Early Childhood Education, Child Care and Youth  
Minister for Sport*

# INTRODUCTION

## FROM AUSTRALIAN WATER SAFETY COUNCIL

Dear Colleague

### WELCOME TO THE 2010 AUSTRALIAN WATER SAFETY CONFERENCE

On behalf of the Australian Water Safety Council (AWSC) I would like to welcome you to the 2010 Australian Water Safety Conference. You will see from the Conference Proceedings that we have an excellent program planned for you – one we believe you will thoroughly enjoy.

Over the past ten years there has been a significant increase in the public awareness of water safety issues and a giant leap forward in terms of government and corporate support at national, state and local levels. Up until last year we had also seen an improving trend of reduced drowning and we set ourselves the task of “Reducing Drowning by 50% by 2020” which seemed achievable at the time. That is why the 2008-09 drowning increase of 20% shocked us - a drowning figure over 300 for the first time in seven years.

Our conference will seek answers to why this increase has occurred and identify what we need to do to turn the figures around.

Pleasingly we have seen growing interest from those involved in and committed to water safety and this conference received over 60 expressions of interest to present papers or posters which were received from throughout Australia and overseas.

Preventing drowning is everyone’s responsibility and, along with my colleagues from the AWSC, I look forward to joining you for a most important event.

Brett Williamson OAM, Surf Life Saving Australia  
 Gordon Mallett, AUSTSWIM  
 Adam Pine, Swimming Australia  
 Emily Herde, Farmsafe  
 Chris Symington, Surfing Australia  
 Dr Richard Franklin PhD, Research Committee convenor  
 - Royal Life Saving Society Australia  
 John Henry, National Marine Safety Committee  
 Gary Penfold, Australian Leisure Facilities Association  
 Paul Anderson, Standing Committee on Recreation and Sport (SCORS)  
 Sandra Franceschin, Commonwealth Department of Health and Ageing  
 Stan Konstantaras, Australian National Sportfishing Association  
 Eric Chalmers, Child Accident Prevention Foundation of Australia (Kidsafe)  
 David Speechley, Australian Swim Coaches and Teachers Association  
 John Lippmann OAM, Diver Alert Network

We hope you enjoy the conference.



**ROB BRADLEY**

Australian Water Safety Council Convenor  
 Chief Executive Officer – Royal Life Saving Society Australia



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Council**

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## MEMBERSHIP - AUSTRALIAN WATER SAFETY COUNCIL

ROBERT BRADLEY (CONVENOR)  
*Royal Life Saving Society  
- Australia (RLSSA)*

BRETT WILLIAMSON OAM  
*Surf Life Saving Australia (SLSA)*

GORDON MALLET  
*The Australian Council for the  
Teaching of Swimming and Water  
Safety (AUSTSWIM)*

DR RICHARD FRANKLIN PhD  
*Research Committee Convenor  
Royal Life Saving Society - Australia*

STAN KONSTANTARAS  
*Australian National Sportfishing  
Association (ANSA)*

ADAM PINE  
*Swimming Australia Limited (SAL)*

JOHN LIPPMANN OAM  
*Divers Alert Network (DAN) Asia Pacific*

ERIC CHALMERS  
*The Child Accident Prevention  
Foundation of Australia (Kidsafe)*

EMILY HERDE  
*Farmsafe Australia*

JOHN HENRY  
*National Marine Safety Committee*

CHRIS SYMINGTON  
*Surfing Australia*

GARY PENFOLD  
*Australian Leisure Facilities Association*

DAVID SPEECHLEY  
*Australian Swimming Coaches and  
Teachers Association (ASCTA)*

PAUL ANDERSON  
*Standing Committee on Recreation  
and Sport*

AUSTRALIAN LOCAL GOVERNMENT  
ASSOCIATION (ALGA)



## BACKGROUND: AUSTRALIAN WATER SAFETY COUNCIL

The Australian Water Safety Council (AWSC) was officially formed in February 1998 as a result of strong industry consultation and with the support of the then Federal Minister for Sport and Tourism, the Hon Andrew Thomson MP. The Council acts as a consultative forum comprising the major water safety and related government agencies and focuses on the presentation of key water safety issues to governments, industry and the community.

The Australian Water Safety Council does not represent an additional layer of organisational bureaucracy and does not receive funding directly. The Council provides a collective voice for its member organisations. It liaises closely with kindred bodies at State, National and International levels.

The AWSC is committed to improving Water Safety in Australia as demonstrated through the production and implementation of two National Water Safety Plans. These plans have generated bipartisan support for Water Safety in Australia and have seen the improvement of Water Safety throughout the country. The AWSC member bodies continue to demonstrate their commitment to Water Safety by directing resources of their respective organisations towards the development and implementation of the National Water Safety Plan.

This is the sixth Water Safety Conference undertaken by the AWSC. Previous conferences were held:

- 5 May 1998 at the Melbourne Sports and Aquatic Centre
- 22 November 2000 at Canberra Convention Centre
- 22-23 September 2003 at Swiss Grand Hotel Bondi Beach Sydney
- 17-18 August 2006 at the Holiday Inn Surfers Paradise Queensland
- 15-16 May 2008 at the Crowne Plaza Darling Harbour Sydney

All conferences involved a broad cross-section of the Australian Water Safety Community which included representatives of government departments, agencies and statutory authorities from throughout Australia. This proceedings document joins the papers presented from the previous conferences, which can be found on the Australian Water Safety Council website [www.watersafety.com.au](http://www.watersafety.com.au).

The recommendations and spirit of cooperation engendered at the Conference in September 2003 was incorporated into the 2004-2007 National Water Safety Plan which was released in September 2004.

Recommendations from the 2006 Conference and the AWSC Planning Workshop held in 2007 were used as the basis for the development of the 2008-2011 National Water Safety Plan, Reducing drowning deaths by 50% by 2020.

The 2010 conference plans to build on the existing work happening around Australia, explore progress to date on the latest (Australian Water Safety Strategy 2008-2011) and look into the future to ensure all people in Australia are all safer in, on, and around water.

Each conference allows for reflection on the water safety plan and provides direction for future water safety activities. Current and past National Water Safety Plans can be downloaded from [www.watersafety.com.au](http://www.watersafety.com.au).



# THURSDAY 13 MAY 2010

## 2010 Australian Water Safety Conference

\*Please note for concurrent sessions the first author is the presenter.

8:00am	<b>REGISTRATION (FOYER-ENDEAVOUR BALLROOM)</b>		
<b>CONFERENCE OPENING AND KEYNOTE SPEAKER ADDRESS (ENDEAVOUR BALLROOM)</b>			
<b>SESSION CHAIR: GORDON MALLET - CHIEF EXECUTIVE OFFICER, AUSTSWIM</b>			
9:00am	<b>Welcome to Country</b> Allen Madden, Cultural Representative of Metropolitan Local Aboriginal Land Council and Gadigal Elder		
9:10am	<b>Conference Opening / Introduction - Aims, Objectives and Schedule</b> Brett Williamson OAM, Chief Executive Officer, Surf Life Saving Australia		
9:30am	<b>Australian Water Safety Strategy 2008-2011 – Reducing Drowning Deaths by 50% by 2020 (Pg 14)</b> Rob Bradley, Convenor, Australian Water Safety Council & Chief Executive Officer, Royal Life Saving Society – Australia		
10:00am	<b>Keynote Presentation – ‘Water – Australia’s Fatal Attraction’ (Pg 19)</b> Magistrate Paul MacMahon, Deputy State Coroner NSW		
10:30am	<b>MORNING TEA- INCLUDES TRADESHOW &amp; POSTER DISPLAYS (FOYER-ENDEAVOUR BALLROOM)</b>		
<b>CONCURRENT SESSIONS</b>			
	<b>CHILDREN UNDER 5</b> Endeavour Ballroom 1&2	<b>COLLABORATION</b> Endeavour Ballroom 3	<b>HIGH RISK POPULATIONS</b> Sirius Room
11:00am	<b>CHAIR: MELISSA SAVAGE</b>	<b>CHAIR: PAUL ANDERSON</b>	<b>CHAIR: MATTHEW THOMPSON</b>
11:05am	<b>Child Drowning in Australia - What More Can We Do (Pg 20)</b> Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia	<b>University of Ballarat Water Safety Research - Where Have We Been? Where Are We Going? (Pg 32)</b> Associate Professor Jenny Blitvich, School of Human Movement and Sport Sciences, University of Ballarat	<b>Indigenous Aquatic Safety Training Unit (Pg 42)</b> Nicola de Wilt, Community Development Officer, Royal Life Saving Society - New South Wales Johl Storey, Royal Life Saving Society - New South Wales
11:25am	<b>Moving Forward - Understanding Caregiver Supervision at the Beach (Pg 23)</b> Lauren Petrass PhD Scholar, Associate Professor Jenny Blitvich and Professor Caroline Finch, School of Human Movement and Sport Sciences, University of Ballarat	<b>An Intergrated Approach to Drowning and Injury Prevention (Pg 35)</b> Nathan Hight, General Manager Programmes and Services, Tim Marsden, Learning and Development Manager, Brett Sullivan, Lifesaving Services and Education Manager, Surf Life Saving New Zealand	<b>Improving Water Safety Skills in Indigenous Communities (Pg 44)</b> Julie Snelling, Manager, Australian Lifesaving Academy and Tony Snelling, Chief Executive Officer, Surf Life Saving Northern Territory
11:45am	<b>Non Fatal Drowning - Case Study, Advocacy and Influencing Water Safety Outcomes (Pg 26)</b> Michael Morris, Managing Director and Jo-Ann Morris, Public Officer, Samuel Morris Foundation	<b>Community Reach - Extension of Lifesaving Services (Pg 37)</b> Tim Marsden, Learning and Development Manager, Surf Life Saving New Zealand	<b>Meeting the Needs of Indigenous Communities in South Australia (Pg 46)</b> Carol Veldhuyzen, Representative / Presenter, AUSTSWIM
12:00pm	<b>Proposed Research to Identify the Impact of Child Drowning on Families and the Absence or Presence of Appropriate Support Mechanisms (Pg 29)</b> Dawn Spinks, Director, Spinks and Associates Pty Ltd Dr Andrew Page, Supervisor, University of Queensland	<b>Towards a Collaborative Approach to Reduce Victoria’s Toddler Drowning Toll (Pg 39)</b> Dr Bernadette Matthews, Manager Research and Injury Prevention and Sarah Bracchi Health Promotion Officer, Life Saving Victoria	<b>ACT Aboriginal and Torres Strait Islander Aquatic Recreation Program (Pg 48)</b> Bradley Bell, Aboriginal Project Officer, Royal Life Saving Society – Australian Capital Territory
12:15pm	<b>Kids Alive \$4.2 Million Warranted or Wasted? (Pg 31)</b> Laurie Lawrence	<b>Collaboration: An Australasian Experience (Pg 41)</b> Shayne Baker, National Education and Training Advisor, Royal Life Saving Society – Australia	<b>Don’t Drink &amp; Drown: Using Marketing and the Media in Health Promotion (Pg 50)</b> Kara Shaw, Health Promotion Officer, Royal Life Saving Society - Western Australia
12:30pm	<b>LUNCH - INCLUDES TRADESHOW &amp; POSTER DISPLAYS - (FOYER-ENDEAVOUR BALLROOM)</b>		



## CONCURRENT SESSIONS

	<b>LEARN TO SWIM</b> Endeavour Ballroom 1&2	<b>HIGH RISK ACTIVITIES</b> Endeavour Ballroom 3	<b>SAFE VENUES</b> Sirius Room
<b>1:30pm</b>	<b>CHAIR: GORDON MALLET</b>	<b>CHAIR: PETER AGNEW</b>	<b>CHAIR: GARY PENFOLD</b>
<b>1:35pm</b>	<p><b>Modernising Swimming and Water Safety Teacher Accreditation (Pg 53)</b></p> <p>David Speechley, Manager, Swim ED – Education by ASCTA</p>	<p><b>Swim Safe. Swim Sober. A Study Examining Drowning in NSW and the Influence of Alcohol (Pg 60)</b></p> <p>Caitlin Vasica, Health Promotion Manager, Royal Life Saving Society – New South Wales</p> <p>Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia</p> <p>Erin Simmonds, Royal Life Saving Society – New South Wales</p>	<p><b>18 Remote Swimming Pools in the Northern Territory - Are they Sustainable Without a Plan? (Pg 73)</b></p> <p>Floss Roberts, Executive Director, Royal Life Saving Society – Northern Territory</p> <p>Justin Scarr, Chief Operating Officer, Royal Life Saving Society - Australia and Drowning Prevention Commissioner, International Life Saving Federation</p>
<b>1:55pm</b>	<p><b>SwimSAFER the Swim Australia Way (Pg 55)</b></p> <p>Ross Gage, Chief Executive Officer, ASCTA and Swim Australia</p>	<p><b>Perceptions and Behaviors of Rock Fishers in Australia: Implications for a National Campaign (Pg 63)</b></p> <p>Dr Bernadette Matthews, Manager Research and Injury Prevention, Life Saving Victoria</p> <p>Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia</p> <p>Sarah Bracchi, Health Promotion Officer, Life Saving Victoria</p>	<p><b>5 Star Water Safety Partner Initiative (Pg 74)</b></p> <p>Grant Davis, Aquatic Industry Services Manager, Royal Life Saving Society - New South Wales</p>
<b>2:15pm</b>	<p><b>SwimSAFER: Swim Schools Living the Water Safety Message (Pg 56)</b></p> <p>Siria Thomas, SwimSAFER Leadership Team Convenor, Swim Australia</p>	<p><b>Don't Put Your Life on the Line – A Strategy to Reduce Rock Fishing Fatalities (Pg 64)</b></p> <p>Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia</p>	<p><b>Public Pool Injury Reporting System (Pg 74)</b></p> <p>Caitlin Vasica, Health Promotion Manager, Royal Life Saving Society - NSW</p> <p>Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia</p>
<b>2:30pm</b>	<p><b>Study into the Swimming Abilities of ACT Primary School Students (Pg 58)</b></p> <p>Sean Hodges, Executive Officer, Royal Life Saving Society – Australian Capital Territory</p> <p>Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia</p>	<p><b>Assessing Injuries Among Recreational Water Users in Western Australia: The Wet and Wild Pilot Study (Pg 67)</b></p> <p>Dr Terri Pikora, Formerly at School of Population Health, The University of Western Australia. Now at Public Health Advocacy Institute WA, Curtin University of Technology</p> <p>Catherine Hill, School of Population Health, The University of Western Australia</p> <p>Rebecca Braham, School of Sport Science, Exercise and Health, The University of Western Australia</p> <p>Christina Mills, School of Sport Science, Exercise and Health, The University of Western Australia</p>	<p><b>Collaboration Within the Community (Pg 77)</b></p> <p>Patricia Krajacic, Swim Academy Assistant, Fairfield City Leisure Centres</p>
<b>2:45pm</b>	<p><b>The State of School Pools and Attitudes Towards Learn to Swim (Pg 59)</b></p> <p>Chris Robinson, Marketing Manager, Water Safety New Zealand</p> <p>Matthew Claridge, General Manager, Water Safety New Zealand</p>	<p><b>Examination of Recreational Fishing Fatalities in NSW 2000-2007 (Pg 69)</b></p> <p>Carla Crosariol, Health Promotions and Research Officer and Caitlin Vasica, Health Promotion Manager, Royal Life Saving Society - New South Wales</p> <p>Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia</p>	<p><b>Risk Management at the Darwin Wave Lagoon (Pg 81)</b></p> <p>Mr Tony Snelling, Chief Executive Officer and Cameron Griffin, Lifeguard Supervisor, Surf Life Saving Northern Territory</p>

3:00pm	<b>AFTERNOON TEA INCLUDES TRADESHOW &amp; POSTER DISPLAYS (FOYER-ENDEAVOUR BALLROOM)</b>			
<b>CONCURRENT SESSIONS</b>				
	<b>CHILDREN UNDER 5 WORKSHOP</b> Endeavour Ballroom 1 & Swimming Pool	<b>WATER SAFETY BENCHMARKING WORKSHOP</b> Endeavour Ballroom 2 & Swimming Pool	<b>ROCK FISHING WORKSHOP</b> Endeavour Ballroom 3 & Beachfront	<b>AQUATIC RISK MANAGEMENT WORKSHOP</b> Sirius Room
3:30pm	<p><b>Swim Teachers – Educating Parents to Save Lives</b></p> <p>Facilitated by: Julie Zancanaro, AUSTSWIM/Hills Swimming</p> <p>See page 144 for Workshop Abstract/Summary.</p>	<p><b>Observational Investigation into the Teaching of Water Safety Skills</b></p> <p>Facilitated by:</p> <ul style="list-style-type: none"> <li>Penny Larsen, National Manager Education &amp; Training, Royal Life Saving Society - Australia</li> <li>Melissa Savage, Project Officer, AUSTSWIM</li> </ul> <p>See page 145 for Workshop Abstract/Summary.</p>	<p><b>Rock Fishing</b></p> <p>Facilitated by:</p> <ul style="list-style-type: none"> <li>Matt Thompson, Coastal Safety Services Manager, Surf Life Saving Australia</li> <li>Bernadette Matthews, Manager – Research &amp; Injury Prevention, LSV</li> <li>Stan Konstantaras, National Safety Officer, Australian National Sportfishing Association</li> <li>Nathan Hight, Surf Life Saving New Zealand</li> </ul> <p>See page 147 for Workshop Abstract/Summary.</p>	<p><b>Aquatic Risk Management</b></p> <p>Facilitated by: Ellie Diaz, Regional Risk Manager Statewide Mutual</p> <p>See page 148 for Workshop Abstract/Summary.</p>
5:00pm	<b>CONFERENCE DAY ONE CLOSE</b>			
6:45pm	<p><b>PRE DINNER DRINKS / CANAPES – VIETNAM PREVIEW</b> <b>Novotel Hotel Brighton - The Pavillion – Level 3</b></p> <p><b>Immerse yourself in the delightful tastes, sounds and vibrant colours of Danang, Vietnam.</b></p> <p>The World Conference on Drowning Prevention 2011 will be taking conference delegates to the frontline of the global effort to fight drowning.</p> <p>With drowning a leading cause of death in the region, Vietnam provides a venue that is not only rich in terms of cultural, historical and tourism highlights, but provides an ideal venue in which to be debating how to lead global efforts to prevent drowning.</p>			
7:30pm	<p><b>CONFERENCE DINNER – BACK TO THE FUTURE</b> <b>Novotel Hotel Brighton – Endeavour Ballroom</b> <b>(Dinner finishes at 11pm)</b></p> <p>Everyone, synchronise your watches, we're sending you Back to the Future!</p> <p>Dinner MC's Dr Richard Franklin PhD and Matthew Thompson</p> <p><b>Welcome</b> Letter to 2020 Back to the Future – First Round of Trivia</p> <p><b>Main Meal Served</b> A moment in time with Ben Austin, Australian Paralympic Swimmer Back to the Future – Second Round of Trivia</p> <p><b>Dessert Served</b> Back to the Future – Prize Winners and Lucky Door Prizes DJ and Dancing</p>			

# FRIDAY 14 MAY 2010

## 2010 Australian Water Safety Conference

8:00am	<b>REGISTRATION (FOYER-ENDEAVOUR BALLROOM)</b>
<b>MAIN PLENARY SESSION (ENDEAVOUR BALLROOM)</b>	
<b>SESSION CHAIR: GORDON MALLETT - CHIEF EXECUTIVE OFFICER, AUSTSWIM</b>	
9:00am	<b>Day Two – Opening Address</b> Brett Williamson OAM, Chief Executive Officer, Surf Life Saving Australia
9:10am	<b>Drowning in Asia. Can Australia Really Make a Difference? (Pg 149)</b> Justin Scarr, Chief Operating Officer, Royal Life Saving Society - Australia and Drowning Prevention Commissioner, International Life Saving Federation
9:30am	<b>Open Forum – Effective Communication for Water Safety and Drowning Prevention (Pg 151)</b> Facilitator - Justin Scarr, Chief Operating Officer, Royal Life Saving Society - Australia and Drowning Prevention Commissioner, International Life Saving Federation <b>Panel members include:</b> <ul style="list-style-type: none"> <li>• Peter George AM, National Director of Lifesaving, Surf Life Saving Australia and Life Saving Commissioner, International Life Saving Federation</li> <li>• Carol Veldhuyzen, AUSTSWIM</li> <li>• Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia</li> <li>• Michael Morris, Managing Director, Samuel Morris Foundation</li> <li>• Dr Kevin Moran, Principal Lecturer in Health and Physical Education, Faculty of Education, The University of Auckland.</li> </ul>
10:25am	<b>Queensland Injury Prevention Council (QIPC)</b> Rosemary Hooper, Secretariat and Principal Project officer (QIPC)
10:30am	<b>MORNING TEA- INCLUDES TRADESHOW &amp; POSTER DISPLAYS (FOYER-ENDEAVOUR BALLROOM)</b>

<b>CONCURRENT SESSIONS</b>			
	<b>SURF BEACHES</b> Endeavour Ballroom 1&2	<b>RURAL AND REMOTE</b> Endeavour Ballroom 3	<b>EDUCATION AND AWARENESS</b> Sirius Room
11:00am	<b>CHAIR: CHRIS SYMINGTON</b>	<b>CHAIR: HELEN VAUGHAN</b>	<b>CHAIR: DAVID SPEECHLEY</b>
11:10am	<b>Challenges, Limitations and New Approaches for Reducing Rip Current Drownings in Australia (Pg 83)</b> Dr Rob Brander, Senior Lecturer, School of Biological, Earth and Environmental Sciences, University of New South Wales	<b>An Update on Secure House Yards for Toddler Drowning Prevention on Farms (Pg 96)</b> Julie Depczynski, Agricultural Health Research Leader, Australian Centre For Agricultural Health and Safety, University Of Sydney Emily Herde and Associate Professor Lyn Fragar, Australian Centre for Agricultural Health and Safety, University of Sydney	<b>The Rescuer Who Drowns (Pg 106)</b> Professor John Pearn, National Medical Advisor and Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia
11:30am	<b>What We Are Selling? - The Knowledge to Save Your Life (Pg 85)</b> Peter Agnew, General Manager, Operations, Surf Life Saving Australia	<b>Keep Watch - Times of Change, Calls for Action (Pg 97)</b> Katherine Celenza, Health Promotion Officer, Royal Life Saving Society- Western Australia	<b>30 Years of Australian Swim Education (Pg 109)</b> Gordon Mallett, Chief Executive Officer, AUSTSWIM
11:50am	<b>A Holistic Approach to Drowning Prevention – The Surf Life Saving Total Service Plan 2009-2011 (Pg 88)</b> Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia	<b>Tambo 2008 - Outback Infant Aquatic Safety Program (Pg 99)</b> Alina Graham, Director, Qualified Aquatics	<b>Water Safety New Zealand and Plunket Bath Mat Project (Pg 109)</b> Chris Robinson, Marketing Manager, Water Safety New Zealand Matthew Claridge, General Manager, Water Safety New Zealand
12:05pm	<b>'Surf Rescue' Emergency Response System - A Strategy to Reduce Coastal Drowning Deaths (Pg 91)</b> Dean Storey, Manager Lifesaving Services, Surf Life Saving New South Wales	<b>Overcoming Adversity - Teaching Swimming and Water Safety in Remote Rural Areas (Pg 103)</b> Christopher Smith, Australian Swimming Coaches and Teachers Association	<b>AUSTSWIM Teacher of Infants and PreSchool Aquatics™ (Pg 111)</b> Warren Curnow, Development Coordinator, AUSTSWIM
12:30pm	<b>LUNCH - INCLUDES TRADESHOW &amp; POSTER DISPLAYS - (FOYER-ENDEAVOUR BALLROOM)</b>		

## CONCURRENT SESSIONS

	<b>HOME POOLS</b> Endeavour Ballroom 1&2	<b>RESEARCH</b> Endeavour Ballroom 3	<b>STRATEGY AND OLDER PEOPLE</b> Sirius Room
2:00pm	<b>CHAIR: DR RICHARD FRANKLIN PhD</b>	<b>CHAIR: ERIC CHALMERS</b>	<b>CHAIR: MATTHEW THOMPSON</b>
2:05pm	<b>Eliminate Child Drowning this Summer - Home Pool Safety in a Box</b> (Pg 113) Caitlin Vasica, Health Promotion Manager, Royal Life Saving Society - New South Wales	<b>Presentation withdrawn.</b>	<b>"SWIMSAFER" Programme – Drowning Prevention in Singapore</b> (Pg 134) Richard M K Tan, Council Member, National Water Safety Council, Singapore
2:25pm	<b>Overview of the Queensland Government's Swimming Pool Safety Reforms</b> (Pg 115) Lance Glare, Director, Building Legislation and Standards Branch, Building Codes Queensland Division, Local Government and Planning Group, Department of Infrastructure and Planning, Queensland Government	<b>Preliminary Mortality Results for a 6-Year Review of Drowning in Children and Young People 0-19 Yrs in Queensland 2002-2008</b> (Pg 125) Belinda Wallis, Royal Children's Hospital and University of Queensland Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia Dr Kerrienne Watt PhD Prof Jim Nixon PhD Prof Roy Kimble MD	<b>Grey Medallion: A Program to Prevent Children Under 5 From Drowning Through Improved Supervision</b> (Pg 137) Priya Pitt, Project Officer and Michael Darben, Executive Director, Royal Life Saving Society – Queensland Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia
2:45pm	<b>Effectiveness of Home Pool Legislation in WA</b> (Pg 117) Lauren Nimmo, Community Health Manager, Royal Life Saving Society - Western Australia	<b>The Real Extent of Drowning Risk</b> (Pg 126) Dr Kevin Moran, Principal Lecturer, The University of Auckland	<b>ACT Seniors Aquatic Recreation - Grey Medallion</b> (Pg 140) Sean Hodges, Executive Director, and Nicole Lloyd, Education Officer, Royal Life Saving Society – Australian Capital Territory
3:00pm	<b>Implementing Home Pool Safety into Aquatic Lessons</b> (Pg 120) Tracey Ayton, AquaBaby Coordinator, YMCA Cook and Phillip Park and Ian Thorpe Aquatic Centres	<b>Keep Watch: A Program to Prevent Children Under 5 Years of Age from Drowning</b> (Pg 129) Michael Darben, Executive Director, and Priya Pitt, Project Officer, Royal Life Saving Society– Queensland Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia	<b>'Reaching Communities Who Hear With Their Hearts' - The Next Chapter</b> (Pg 142) Ben Penita Taufua, Managing Director, Tautua Synergy Consultants™
3:15pm	<b>Your Pool. Your Responsibility – Auckland Regional Pool Safety</b> (Pg 122) Teresa Stanley, Business Manager, WaterSafe Auckland	<b>Establishing New Zealand's Water Safety Research Objectives and Outcomes</b> (Pg 132) Alex Brunt, Advisor – Policy and Planning, Water Safety New Zealand	<b>Capacity Building for Delivering Water Safety Education in ACT Schools</b> (Pg 142) Cherry Bailey, Operations Manager and Sean Hodges, Executive Director, Royal Life Saving Society – Australian Capital Territory
3:30pm	<b>AFTERNOON TEA- INCLUDES TRADESHOW &amp; POSTER DISPLAYS (FOYER-ENDEAVOUR BALLROOM)</b>		
<b>MAIN PLENARY SESSION (ENDEAVOUR BALLROOM)</b>			
4:00pm	<b>Australian Water Safety Council - Rural and Remote Strategy</b> Dr Richard Franklin PhD, National Manager Research and Health Promotion, Royal Life Saving Society – Australia Amy Peden, Senior Project Officer, Royal Life Saving Society - Australia		
4:30pm	<b>Summary and Future Directions</b> Rob Bradley, Convenor, Australian Water Safety Council & Chief Executive Officer, Royal Life Saving Society Australia		
5:00pm	<b>CONFERENCE DAY TWO CLOSE</b>		

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The aspiration goal of the Australian Water Safety Strategy of “reducing drowning deaths by 50% by 2020” is in grave danger of not being met...

# AUSTRALIAN WATER SAFETY STRATEGY 2008-2011

## REDUCING DROWNING DEATHS BY 50% BY 2020

ROB BRADLEY

*Australian Water Safety Council Convenor  
Chief Executive Officer, Royal Life Saving Society – Australia*

### ACT TODAY FOR 2020 – PREVENTING DROWNING

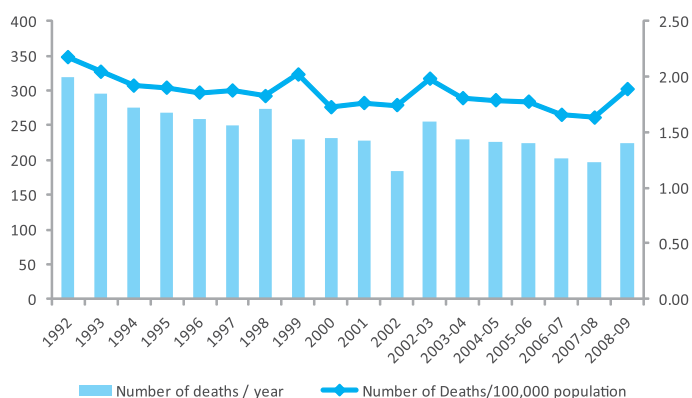
Our 2010 Australian Water Safety Conference finds us at the mid-way point of implementing the Australian Water Safety Strategy 2008-11. It is a critical time for Water Safety in Australia because of the startling increase in drowning deaths that has occurred during the past twelve months. The aspiration goal of the Australian Water Safety Strategy of “reducing drowning deaths by 50% by 2020” is in grave danger of not being met and this brings the importance of conference deliberations into even sharper focus.

#### Aim of the Conference

- Brief review of what has been achieved since our 2008 AWS Conference
- Review progress of Australian Water Safety Strategy 2008-2011
- Receive presentations on Best Practice and Innovations in Water Safety
- Determine whether there are new or emerging issues and priorities
- Networking and Sharing Ideas
- Identify why targets are not being met and determine remedial strategies
- Reaffirm our commitment and impetus for achieving the objectives set within the National Water Safety Plan 2008-11

#### Drowning In Australia 2010

- Over 270 Australians drown every year (five-year average - noting the jump to 302 deaths in 2009)
- Drowning is the third highest cause of accidental death
- In the 0-4 age group it is the No.1 killer
- Almost **every** drowning is preventable
- There has been a disturbing plateau and then increase in the drowning rate during past 5 years

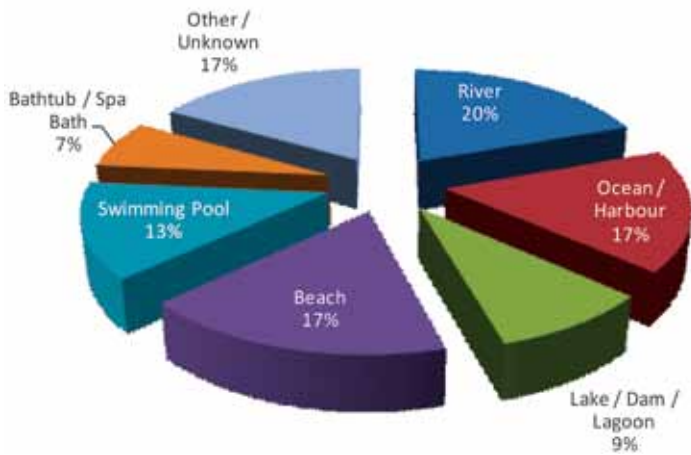


Australian Water Safety Strategy 2008 - 2011

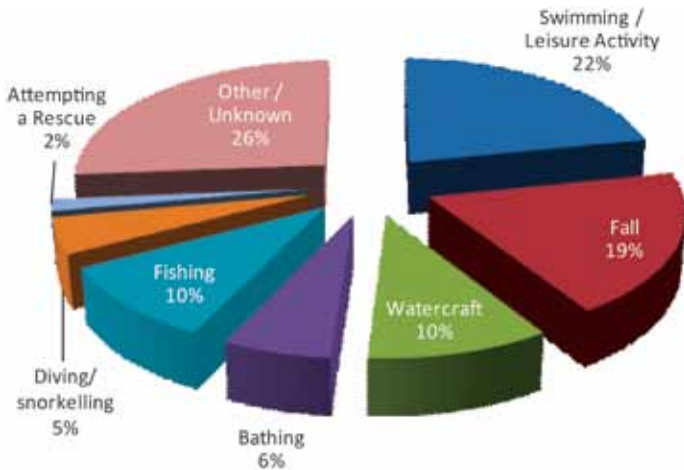
Reducing drowning deaths by 50% by 2020

#### National Drowning Statistics

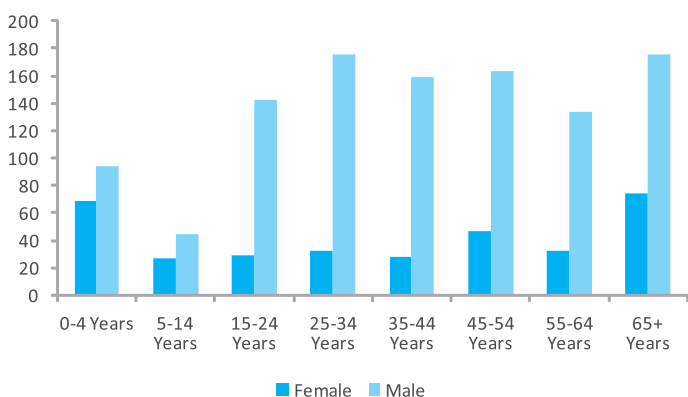
Unintentional Drowning Deaths Australia, 1992-2007



**Where?** Drowning deaths in Australia 2004-2007, location at time of deaths



**Activity?** Drowning deaths in Australia 2004-2007, activity at time of deaths



**Age groups** Drowning deaths in Australia by age group, 2004-2007

**The Australian Water Safety Council**

- AWSC is an industry driven Lobby Group representing the key Water Safety organisations.
- Officially formed in February 1998
- Striving to work more closely with State Governments and stakeholder groups
- National Water Safety Plans – 1998-2003, 2004-2007 and 2008-2011

**Purpose of the Australian Water Safety Strategy**

In the diverse & complex Aquatic Industry we aim to:

- Provide a bipartisan framework that will ...
  - Reduce Duplication of Effort and Resources
  - Share ideas and strategies
  - Identify the responsibilities of stakeholders
  - Focus on establishment and maintenance of standards and consistency of message
  - Policy and decision making underpinned by an evidence base
  - Help us Save Lives

**Stakeholders of the Plan**

- A complex issue with many layers of stakeholders
- Water Safety sits across Governmental portfolios:
  - Health & Ageing
  - Sport & Recreation
  - Education
  - Tourism
  - Emergency Services
  - Local Government & Local Councils
  - Primary Industry
  - Transport
- State Water Safety Councils
- National Water Safety organisations – state & territory branches
- National / State organisations with a water safety interest
- Commercial operators and private providers

**Australian Water Safety Strategy 2008-2011 - Overarching Goal - "Target 2020"**

The Australian Water Safety Plan aims to reduce drowning:

- by 15% by 2011
- by 50% by 2020

**Key Priority Areas in Drowning Reduction**

1. Life Stages Perspective
2. High Drowning Locations
3. Key Drowning Challenges
4. Drowning Prevention Pillars

### 1. Life Stages Perspective - Adopting a Life Stages approach to targeting demographics

	Drowning deaths	Key issues
<b>Pre-school (0-4 years)</b>	33	Swimming Pools, baths and dams
<b>School age (5-14 years)</b>	16	Rivers, swimming pools and swimming
<b>Independent adolescents (15-17 years)</b>	6	
<b>Young adulthood (18-24 years)</b>	29	Rivers and beach, swimming
<b>Working age (25-64 years)</b>	153	Swimming, fishing, water craft, and beach, river, ocean
<b>Retired (65-74 years)</b>	27	Watercraft, beach, river and ocean
<b>Elderly (75+ years)</b>	24	Beach, river and swimming pools, fell-in and swimming

#### 1. Adopt a Life Stages perspective

Objectives:

1. Reduce drowning deaths in children under five
2. Reduce alcohol related drowning in men 18-34
3. Reduce drowning deaths in older people

#### 2. High Drowning Locations

Objectives:

1. Reduce beach and coastal drowning deaths
2. Reduce rural and remote drowning deaths
3. Reduce drowning deaths in home swimming pools

#### 3. Meet Key Drowning Challenges

Objectives:

1. Reduce drowning deaths attributed to high risk recreational activities
2. Reduce drowning in high risk populations
3. Reduce the impact of climate change on drowning deaths

#### 4. Drowning Prevention Pillars

Objectives:

1. Build systems that support safe recreational venues
2. Strengthen the skills, standards and contribution of our drowning prevention people
3. Extend the drowning prevention evidence base
4. Foster collaborative approaches to drowning prevention

### Structure of the Plan

- Change to the Strategic Perspective
- Identifying the Priority Areas we can make most impact
- Case Studies and Best Practice
  - Using Case Studies to highlight major issues and profile success stories across states and territories
  - Identify and promote the importance of Best Practice
  - Refine and implement strategies to translate the Best Practice nationally
- SMART Goals
  - Statements of Key Principles
  - Recommendations for Action
- Integration of the work of States and Territories
- Benchmarks and Target Setting
  - Underpinned by research
  - Ensuring maintenance of standards and consistency of message
- Build on positive "Political Will"
  - Whole of Government approach
  - Identify the State Government "lead agencies"
- Continue the Evaluation Methodology and Review Timeframe - annual review of achievement of milestones

### Communication Strategy

- AWSC committed to ongoing reporting to, feedback from and dialogue with stakeholder groups
  - as the plan is rolled out
  - linked to the formal annual evaluation strategy
  - stronger communication links between AWSC & State Water Safety Councils
- Specific Issue Analysis
  - forums to be held to discuss single issues in detail eg: National Rural and Remote Water Safety Forum held September 2009
  - involving the specific stakeholders with interest/expertise in the area
  - evidence based decision making and policy
- Water Safety Interest Group Conferences and Workshops
  - Ensuring the opportunity for input from interested groups and subject matter experts

### Next Steps

- Targets not being met and remedial action required



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KEYNOTE PRESENTATION:

# WATER - AUSTRALIA'S FATAL ATTRACTION

**MAGISTRATE PAUL MACMAHON**

*Deputy State Coroner NSW*

Magistrate Paul MacMahon will be a Keynote Speaker at the opening session of the 2010 Australian Water Safety Conference.

His paper titled 'Water – Australia's fatal Attraction' will examine drowning in Australia, what it is about Australia that makes drowning an issue and the role the coroners have, and might play, in highlighting the issue, responding to the issue and exploring recommendations to prevent a similar drowning incident from occurring.

Magistrate MacMahon has a long and distinguished career in law graduating with a Bachelor of Laws in 1973. He was for many years a Solicitor practicing in government, corporate organisations and private practice. He has conducted proceedings in all NSW courts, the Federal Court and the High Court of Australia.

He has a Masters of Social Science (Criminology). He has been a Magistrate since 2003 and since being appointed as NSW Deputy State Coroner in 2007 has presided over a range of high profile coronial investigations of drowning deaths in NSW.

His extensive experience with the law and recent history of examining drowning deaths cases in the Coroners court places him a unique position to provide an exciting, informative and thought provoking presentation about the role of the Coroner in prevention of drowning.



...an exciting,  
informative and  
thought provoking  
presentation about  
the role of the  
Coroner in prevention  
of drowning.



Last year in Australia 32 children under the age of five drowned.

PRESENTATIONS:

## CHILDREN UNDER 5

### CHILD DROWNING IN AUSTRALIA – WHAT MORE CAN WE DO?

DR RICHARD FRANKLIN PhD

*National Manager Research and Health Promotion,  
Royal Life Saving Society - Australia*

#### ABSTRACT

##### Background/Introduction

Last year in Australia 32 children under the age of five drowned. While the number of children who drown in Australia has slowly been decreasing, there is still much work required. The Australian Water Safety Strategy 2008-2011 identified the need to reduce drowning deaths in children under five as one of the priorities and specifically identified swimming pool, supervision, safe play areas, tertiary prevention skills and public awareness campaigns as strategies that will help reduce drowning deaths in this age group. This paper explores the number of children who could have been saved using these strategies and if other strategies are required.

##### Methods

All drowning deaths (excluding those deaths from natural causes, shark attacks, crocodile attacks, marine stingers, suicide and homicide) were identified from the National Coroners Information System (NCIS) for the period 1 July 2002 to 30 June 2007. These cases were matched against RLSSA data and data from the Queensland Coroner. The all children under the age of 5 were selected.

##### Results/Evaluation

For the study period there were 169 (or average of 34 deaths per annum) children who drowned in Australia. Of these 47% were in swimming pools, 17% were in bathtubs and 15% were in lake / dam / lagoon locations. Most commonly children were playing or recreating near the water and fell in (73%), followed by bathing (15%).

##### Discussion

From the information provided it is possible that up to approximately 60% could have been prevented by restricting a child's access to water, either by placing a barrier around the child (i.e. safe play area) or around the water (e.g. pool fencing). Approximately another 17% may have been prevented with appropriate supervision as the child was in the water at the time. Water familiarisation may have prevented a small number as would have appropriate supervision. The need to ensure parents and carers are provided with appropriate advice and skills particularly in regards to restricting access to the water may also help reduce the number of children who drown.

##### Conclusion

It is possible to continue to reduce the burden of child drowning in Australia, however to do this there is a need to improve pool fencing regulations and enforcement in Australia.

##### Acknowledgements

National Coroners Information System

Dr Richard Franklin PhD

Address: PO Box 558, Broadway NSW 2007

Phone: (02) 8217 3128 Fax: (02) 8217 3199

Email: rfranklin@rlssa.org.au

## PRESENTATION PAPER

### Introduction

Last year in Australia 32 children under the age of five drowned. In 1976 Pearn and Nixon highlighted the problem of drowning ‘...Drowning and near-drowning accidents involving children have become an unfortunate part of modern day living...’<sup>(1)</sup>. It has been thirty-four years since this statement and unfortunately child-drowning deaths remain an Australian<sup>(2)</sup> as well as an internationally problem<sup>(3)</sup>, even though much work has been undertaken to prevent these deaths from occurring.

While the number of children who drown in Australia has slowly been decreasing, there is still much work required. The Australian Water Safety Strategy 2008-2011 identified the need to reduce drowning deaths in children under five as one of the priorities and specifically identified swimming pool, supervision, safe play areas, tertiary prevention skills and public awareness campaigns as strategies that will help reduce drowning deaths in this age group.

There have been many small and large steps undertaken in both our understanding of how children drown, the prevention strategies that are required and work in preventing death and systems which allow the monitoring and reporting of drowning deaths.

Pool fencing as a strategy has had a significant impact on the number of children who drown in Australia. All States and Territories in Australia have legislation requiring pools to be fenced, although these requirements do vary from State to State. Yet there is still much work to do in this area, while legislation has been found to be effective<sup>(4)</sup>, the devil is in the detail. For example with the configuration of pool fencing three-sided (entry via the house) as opposed to four-sided (entry via a gate) has a relative risk of 2.88<sup>(5)</sup>. Unfortunately at the same time we know that many councils in Australia are not ensuring home swimming pools are appropriately fenced<sup>(6)</sup>.

Safe play areas on farms have also been portrayed as a possible solution to preventing drowning, as well as exposure to other hazards on the farm<sup>(7,8)</sup>. Work in North America as well as Australia has provided a greater understanding on what is a safe play areas and how these areas can be constructed<sup>(9,10)</sup>. This paper explores the number of children who may have been saved using the following strategies: Pool fencing, safe play areas, supervision, CPR / medical intervention, life jackets / PFD's, water familiarisation, alarms, and bath seats (although there is some concern they may increase risk).

### Methods

Statistics were compiled from the NCIS for the period 1 July 2002 to 30 June 2007. All cases where the cause of death (where known at the time of analysis) was not drowning (e.g. natural causes, shark attack, crocodile attack) and all intentional drowning deaths (i.e. suicide and homicide) were excluded. A full description of the methods can be found in Franklin et al<sup>(11)</sup>.

Those cases where the age of the person who drowned was greater than 5 years were excluded, leaving a dataset of children 0-4 years.

Australian Bureau of Statistics (ABS) population projections for the period 2006 to 2101<sup>(12)</sup> series B were used to estimate the population size and growth for Australia's estimated resident population. Information not being available (i.e. unknown) was one of the limitations, this was due to:

- The case being open (15.9%) and the coroner still enquiring into the death, and thus not all the information is available
- The body was not located or the body was heavily decomposed or the person was alone at the time of death
- The coroner was unable to make a ruling on circumstances surrounding the drowning death
- The residential address of the deceased was not applicable as they were a homeless person or a tourist from overseas<sup>(13)</sup>.

### Results

For the study period there were 169 (or average of 34 deaths per annum) children who drowned in Australia. Of these 47% were in swimming pools, 17% were in bathtubs and 15% were in lake / dam / lagoon locations. Most commonly children were playing or recreating near the water and fell in (71%), followed by bathing (14%).

For children who drowned in swimming pools, 87% did so following a fall into the water and 8% were in the water at the time. Of the children who drowned in the bathtub, 86% were bathing at the time and 14% drowned following a fall into the bath. For children who drowned in river / lakes / dams and lagoons, 90% were following a fall into the water.

The average age in years of children who drowned in swimming pools was 2.0 (95%CI 1.8-2.2), in baths 1.1 (95%CI 0.8-1.5), rivers was 2.0 (95%CI 1.5-2.5), and in lake / dams / lagoons was 1.9 (95CI 1.6-2.3). The average age of children who drowned while undertaking swimming and leisure activities was 2.6 years (95%CI 1.9-3.4), from falling into the water 1.8 years (95%CI 1.7-2.0) and bath was 1.1 years (95%CI 0.8-1.5).

### Discussion

On average 34 children drowned per annum during the study period, with the majority of these in swimming pools and of these from falling-in. For children who drown in a swimming pool, those undertaking leisure activity are on average older (2.7 years), than those children who drown from falling into the swimming pool (1.9 years). It is postulated that with improved fencing and supervision, between 75% to 90% of these deaths could have been prevented.

For children who drowned in bathtubs, the majority were bathing at the time and were on average 1.1 years of age. It is postulated that between 65% to 85% of these deaths could have been prevented with appropriate supervision.

Of the children who drowned in rivers / lakes / dams / lagoons, most were due to a fall and were aged 1.9 years on average. The prevention of these deaths are more difficult as you cannot fence these water areas. It also appears children discover the water as part of their exploration of the environment and as such the most appropriate option would be providing a safe play area. It is postulated that this would prevent approximately 30% to 60% of these deaths.

From the information provided it is possible that up to approximately 60% could have been prevented by restricting a child's access to water, either by placing a barrier around the child (i.e. safe play area) or around the water (e.g. pool fencing). Approximately another 17% may have been prevented with appropriate supervision as the child was in the water at the time. Water familiarisation may have prevented a small number as would have appropriate supervision of the child near the water. The need to ensure parents and carers are provided with appropriate advice and skills particularly in regards to restricting access to the water may also help reduce the number of children who drown.

### Conclusion

It is possible to continue to reduce the burden of child drowning in Australia, however to do this there is a need to improve pool fencing regulations and enforcement in Australia.

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# MOVING FORWARD

## UNDERSTANDING CAREGIVER SUPERVISION AT THE BEACH

**LAUREN PETRASS**

*PhD Scholar, School of Human Movement and Sport Sciences, University of Ballarat*

**ASSOCIATE PROFESSOR JENNY BLITVICH**

*School of Human Movement and Sport Sciences, University of Ballarat*

**PROFESSOR CAROLINE FINCH**

*School of Human Movement and Sport Sciences, University of Ballarat*

### ABSTRACT

#### Introduction/background

Child drowning remains a significant cause of preventable death and hospitalisation, particularly for children. Supervision, attentiveness and water safety skills of caregivers take on increased importance when children are around water. The 2009 National Drowning Report states that caregivers can reduce a child's risk of drowning through active supervision. Whilst a lack of supervision is implicated in almost all child drowning tragedies, few studies have prospectively investigated the nature of caregiver supervision in aquatic settings. This study builds on a presentation from the 2008 Water Safety Conference which discussed methodological issues associated with the measurement of supervision. Study findings comparing self reported and observed supervisory practices of 100 caregivers at the beach will be presented.

#### Methodology

Supervision behaviour was unobtrusively observed at 18 popular Eastern Australian beaches during September-April, 2008/09. Caregiver/child (age 2-14 years) pairs engaged in beach play were observed for a 20-minute period then caregivers were invited to complete a self-report questionnaire - "Kids @ Beach".

#### Results/Evaluation

Survey and observational data of 100 caregivers were compared. Caregiver demographics; water and beach safety knowledge; perceptions of injury/drowning risk, and attitudes toward supervision; and supervisory behaviour varied among participants. Supervisory behaviour, (attention, proximity and continuity) ranged from a high level (close and constant supervision) to less adequate supervision, even for young children in poor beach conditions.

Survey findings indicated children aged 0-4 were supervised most closely, with most caregivers reporting they stayed close to their child in the water. For the 5-9 age group, "watching constantly from the beach" was the most frequent response. Analysis of survey responses in conjunction with observation findings enabled identification of specific child and caregiver factors influencing the level of supervision.

#### Conclusion

This study provides valuable information for the safety of children in aquatic settings. It confirms the role of supervision as a protective factor in aquatic environments, promoting the need for close and constant supervision of young children to prevent drownings. Increased understanding of this relationship in beach environments serves to guide future development of injury/drowning prevention strategies, and informs the development of caregiver education programs to reduce child drowning through supervision.



Child drowning remains a significant cause of preventable death and hospitalisation, particularly for children.

## PRESENTATION PAPER

### Introduction

Unintentional injury is a leading cause of hospitalisation and death for children and drowning ranks among the top three causes of injury death for children worldwide<sup>(1)</sup>. This does not, however represent the full scope of the problem, as estimates suggest that for each child drowning death, there are between one and four non-fatal drowning-related incidents serious enough to warrant hospitalisation<sup>(2)</sup>. Many children who survive these incidents are left with on-going cognitive and/or physical disabilities that create difficulties for families and contribute to the economic and social burden associated with child injury<sup>(3)</sup>.

A lapse in, or lack of, caregiver supervision is frequently cited as a contributing factor in child drownings<sup>(4-8)</sup> and for this reason, there is increasing interest in understanding the role of supervision. Aquatic supervision research to date has been limited by the use of retrospective case series review study designs<sup>(9)</sup>. Whilst these studies have identified supervision as a risk factor for child drowning, and studies in other settings have demonstrated supervision reduces child injury risk<sup>(10,11)</sup>, it is essential that further research using robust designs is conducted to understand factors that impact on the nature of supervision children receive in aquatic settings.

A recent systematic review of methodological approaches used to assess the relationship between supervision and child injury described methods that have been used to measure supervision, as well as their advantages and disadvantages<sup>(9)</sup>. The review concluded that there was scope to improve the quality of research in the supervision and child injury area by (i) using valid and reliable measures (ii) conducting prospective studies and (iii) implementing mixed-method approaches to allow findings obtained from different methods to be triangulated.

The overall aim of this research project was to redress this information need by developing a valid and reliable observation instrument as well as a self-report questionnaire which could be applied to (i) facilitate understanding of caregiver perceptions of the risk of childhood drowning (ii) determine the nature of caregiver supervision at the beach, and (iii) investigate supervisor, child and environmental factors that influence the level of supervision that parents provide to children.

### Method

A prospective mixed-method design was implemented, with a 20-minute unobtrusive observation of caregiver supervision and child behaviour at beaches followed by administration of a self-report caregiver questionnaire. Eighteen patrolled and non-patrolled surf and flat-water beaches from both Victoria and Queensland were selected on a convenience basis and because of their popularity with families. This sampling enabled a large data collection period from beaches with the same or similar levels of risk. All data were collected during school holiday periods, or on weekends throughout the school term when the weather was warm. Data collection was conducted between 9:30am-4:30pm as based on a pilot study these were judged to be the busiest times of the day for families. All data was collected by the lead author and followed pilot testing

to ensure (i) familiarity with the observation instrument and (ii) a standardised approach to asking caregivers to complete a water safety and drowning prevention questionnaire. This study received approval from the University of Ballarat Human Research Ethics Committee.

### Participant selection

Children aged 1-14 years engaged in recreational play, with caregivers who were present at the beach during the observation time, were eligible to be monitored. Therefore, the sample did not include young children where caregivers could not be determined. To ensure that a range of caregiver and child beach behaviours were observed, observations were systematically conducted along successive sections of the beach. Throughout all observation periods, the researcher had a clear view of the caregiver and child being monitored.

### Measures

An observational recording tool, in the form of a two part checklist was used to record caregiver practices and child behaviour, while a separate form was used to record associated environmental factors. The data collection tool was adapted from a study of caregiver supervision at pools and playgrounds and refined following an interactive workshop session at the 2008 Australian Water Safety Conference<sup>(12)</sup>.

A self-report written questionnaire for caregivers to complete at the beach was also developed. However, unlike many previously used supervision questionnaires, this measure underwent extensive testing to establish its validity and reliability. The questionnaire consisted of closed questions designed to provide information on frequency of child and caregiver visits to the beach; caregiver understanding of the term 'supervision' and 'close supervision'; caregivers self-reported supervisory behaviour and beach practices to ensure child safety; perceptions of the risk of drowning for their children, and child and caregiver demographics.

### Data analysis

Data was manually entered into an ACCESS database on two separate occasions and then transferred to Microsoft Excel for data cleaning. The cleaned data was exported to the PASW (Version 17) statistical package for data analysis. Descriptive statistics, frequencies and percentages were used to report trends in caregiver, child and environmental variables. Chi square tests were used to identify univariate associations and multivariate logistic regression was used to determine independent predictors of level of caregiver supervision at beaches.

### Results

A total of 183 unobtrusive observations were conducted. In 18 cases data were incomplete as the caregiver, child or caregiver/child pair left the beach during the observation, resulting in the inclusion of 165 caregiver-child pairs. Overall, 113 of the caregivers whose supervisory behaviour was observed completed the "Kids @ Beach" questionnaire, giving a response rate of 68%. Caregiver demographics; water and beach safety knowledge; perceptions of injury/drowning risk, and attitudes toward supervision; and supervisory behaviour varied among participants.



Observed supervisory behavior, (attention, proximity and continuity) varied, with 23.0% of caregivers demonstrating a high level (close and constant) of supervision, while 39.4% of caregivers provided poor supervision, even for young children in rough beach conditions. According to the survey, children aged 0-4 years were supervised most closely, with 86.4% of caregivers reporting that they stayed close to their child in the water. For the 5-9 year olds, "watching constantly from the beach" was the most frequent (36.3%) response, followed by caregivers staying close to their child in the water (27.2%). As expected, watching from the beach was the most frequent response (39.0%) for children aged 10-14 years. Analysis of observation findings enabled identification of specific child, caregiver and environmental factors influencing the level of supervision.

### Discussion

This study addresses an important methodological issue regarding measurement approaches to assess supervision in aquatic settings. The development and validation of an observation instrument and self-report questionnaire to measure supervision at beaches allows further understanding of the role of supervision for drowning prevention. The study findings illustrate that caregiver supervision and perception of child drowning risk vary among caregivers who frequent the beach. Prospective investigations to determine the nature of caregiver supervision is required in other open water settings such as rivers and lakes to further determine the aetiological role of supervision for drowning prevention.

This is the first prospective study examining independent predictors of supervision in an aquatic setting. The findings demonstrate that of the 12 observational measures taken, four (child gender, child age, percent of time caregiver spent distracted, and the position of the caregiver and child on the beach) were identified as independent predictors of supervision. Despite the increased importance of caregiver supervision when children are in or near water<sup>(13)</sup>, according to the observations, almost half (48.5%) of children aged 1-14 years were provided with a low level of supervision whilst at the beach. This finding may suggest that caregivers are unaware of the potential dangers and need for caution when children are in or near the water. Further research exploring this phenomenon is therefore required.

### Conclusion

This study provides important information for the safety of children in active aquatic settings. Supervision is a prescribed and often assumed method of injury prevention<sup>(14)</sup>. However, this study has identified a number of factors that affect the level of supervision provided to children at beaches. Further studies in other aquatic settings should continue to explore independent predictors of caregiver supervision, as increased understanding of this relationship serves to guide future development of drowning prevention strategies, and informs the development of caregiver educational programs which focus on supervision to reduce child drownings.

### Acknowledgements

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# NON FATAL DROWNING

## CASE STUDY, ADVOCACY AND INFLUENCING WATER SAFETY OUTCOMES

**MICHAEL MORRIS**

*Managing Director, Samuel Morris Foundation*

**JO-ANN MORRIS**

*Public Officer, Samuel Morris Foundation*

### ABSTRACT

Research shows us that for every child drowning death there are three to four children admitted to hospital as a result of near drowning and one fifth of those children will experience an hypoxic brain injury resulting in lifelong disabilities (AIHW 2008), new sources indicated that the number of hospitalisations due to near drowning is on an upwards trend (Dr Peter De Jong, QLD Health 2009). Media reporting on near drowning outcomes remains very limited. Media outlets report on successful resuscitation outcomes where there appear to be no ill effects as a result of the immersion, or briefly report on the death of the child if they succumb during their hospitalisation.

This presentation will briefly outline a case study of one near drowning survivor with severe disabilities, outlining the ongoing medical complications and care issues to provide a context for the rest of the presentation dealing with advocacy, and influencing water safety outcomes. This presentation will then argue that whilst ever near drowning numbers remain hidden from mainstream reporting, and while near drowning figures are not discussed as part of the overall statistical reporting on drowning a key advocacy point is being missed. As long as this continues to occur, both the general public and policy decision makers in government will fail to fully appreciate the impact of drowning/near drowning within Australia.

This presentation will also discuss the role of organisations like the Samuel Morris Foundation and other small organisations in meeting the targets within the Australian Water Safety Strategy. It will support the argument that "Debate is fundamental to the development of good public policy. Good policy must reflect a range of perspectives and be based on knowledge of real people's lives and experiences. NGO's (like the Samuel Morris Foundation), are the repository of an enormous amount of information about how things work in their part of the world and governments simply cannot make effective policy without access to that bank of knowledge" (Hamilton and Maddison 2007). The presentation will argue that there is a strong advocacy role that can be played by these organisations. The presentation will argue that by working in collaboration with mainstream water safety advocacy organisations such as Royal Life Saving, AUSTSWIM etc they may be able to strengthen the overall advocacy for improved water safety outcomes.

### PRESENTATION PAPER

#### **The Samuel Morris Foundation – A Brief History**

The Samuel Morris Foundation was established in March 2007, as Australia's first charity aimed at supporting children disabled by non-fatal drowning (or other hypoxic brain injuries) and preventing future drowning deaths and disability through education and awareness.

The Foundation came into existence almost twelve months after the non-fatal drowning incident of Samuel Morris (9th April 2006). Samuel was two years eight months old when he gained access to his backyard swimming pool through a defective pool fence panel. Unfortunately as a result of his immersion Samuel suffered a hypoxic brain injury that left him with severe disabilities, including spastic quadriplegia, Dystonia and other ongoing muscular-skeletal and respiratory problems associated with his brain injury.

Samuel's non-fatal drowning circumstances highlighted three factors: a severe flaw in the process of local government following up on inspections of domestic swimming pools, both at the time of construction and throughout the pools life cycle; a lack of a community of support for children and their families going through similar circumstance; and a lack of good quality research related to the longitudinal outcomes for children who experience a drowning event and survive.

Following research trying to answer many questions around these issues the Samuel Morris Foundation was established with the following objectives:

- Purchasing equipment and aids relevant to each child's disabilities, to support their daily care and quality of life
- Promoting research into the prevention of, treatment of and outcomes for childhood hypoxic brain injuries and associated disabilities
- Actively contributing to water safety messages and campaigns with established water safety organisations
- Advocacy for changes to Standards, Legislation, Regulations and their enforcement to improve the safety of domestic swimming pool, and to improve safety around other water sources
- Advocacy to ensure the needs of children with hypoxic brain injuries are met through the establishment of a National Disability Insurance Scheme
- Establishing long term mutually beneficial partnerships to prevent drowning and support families with children who have suffered a drowning event

(A brief audio visual presentation dealing with Samuel's medical history, to highlight the longer term effects of near drowning will be made at this point)

#### **Community Readiness**

Public health prevention programs, in order to be successful, need to include a variety of methods and utilise a systematic approach. No single program is capable of addressing the needs of a socially and culturally diverse population like that of Australia.

Researchers (Edwards et al. 2000) have developed and trialed a model of community readiness for community prevention programs which has been adapted to various community health prevention programs. We argue this model is applicable for drowning prevention programs.

These researchers identify nine stages of community readiness for prevention programs, being:

1. No Awareness
2. Denial
3. Vague Awareness
4. Preplanning
5. Preparation
6. Initiation
7. Stabilisation
8. Confirmation/expansion
9. Professionalisation

#### **The current situation of community readiness**

It could be argued that the Australian Water Safety community is at stage nine of the community readiness model; however this would be simplistic and misleading.

Thanks to the dedicated work of the Royal Life Saving Society - Australia, every year the Australian public is reminded of the tragic toll that drowning has within the Australian community, and a great deal of publicity is brought to bear on the emerging trends in fatal drowning statistics.

Royal Life Saving has also consistently done an excellent job of establishing public safety campaigns such as its "Keep Watch" program to attempt to address the significant representation of children aged 0-4 in the fatal drowning statistics.

Sadly 50 children aged 0-17 lost their lives to drowning in 2008/2009, with 64% of these being in the age group 0-4, and 60% of the deaths in the 0-4 age group occurring in swimming pools (Royal Life Saving Society - Australia 2009). These figures are horrendous but they are only one part of the overall picture.

#### **The contribution of non-fatal drowning statistics to community readiness**

Research (Kreisfeld & Henley 2008) shows us that for every child drowning death there are three to four children admitted to hospital as a result of a non fatal drowning and almost one quarter (22.5%) of those children will experience a hypoxic brain injury resulting in lifelong disabilities. Recent media sources (quoting Dr Peter De Jong, QLD Health 2009), indicate that the number of presentations to hospitals due to near drowning is on an upwards trend and that in addition to the four hospitalisations there are approximately ten presentations to hospital following a drowning that do not require hospitalisation (Qld Dept of Infrastructure and Planning).

However, the statistics and associated stories related to non-fatal drowning incidents have not appeared as part of the ongoing annual statistical reporting that is used by many organisations as a catalyst to argue for changes to legislation and increased funding and community efforts towards drowning prevention. Historically very few non-fatal drowning incidents have been subject to the type of scrutiny associated with a coronial report. This means that a large bank of knowledge about the circumstances of the non-fatal drowning is absent from the evidence base for prevention programs.

#### **Achieving the goals of the Australian Water Safety Strategy through partnership, collaboration and coalition**

Successful collaboration helps people realize their need to work together by focusing on shared goals, common problems and a sense of crisis. Collaborations help to establish relationships, secure resources and institutional support, market the effort and push for successful implementation (Yaffee & Wondolleck 2001).

We propose that a strategy like the Australian Water Safety Strategy almost mandates the need for partnerships, collaboration and coalitions in order to achieve the desired outcome. No one individual or organisation is capable of its achievement in isolation.

#### **Building new collaborations with emerging grass roots organisations**

Social Researchers (Hamilton & Madison 2007) argue that that "debate is fundamental to the development of good public policy. Good policy must reflect a range of perspectives and be based on knowledge of real people's lives and experiences. NGO's are the repository of an enormous amount of information about how things work in their part of the world and governments simply cannot make effective policy without access to that bank of knowledge".

The existing and long established partnerships and collaborations within the water safety industry have developed extensive bodies of knowledge, and existing peak organisations like Royal Life Saving, Surf Life Saving, AUSTSWIM and others have been effectively engaged in advocacy for drowning prevention for considerable periods of time. All of these organisations have actively sought, with varying degrees of success over time, to put before decision makers in government the bank of knowledge that they have established in order to try to influence government policy and action on drowning prevention and water safety.

Discussions with some of these long established organisations reveal that the perspective of non fatal drowning survivors and their families have been absent from their banks of knowledge for a variety of reasons.

The knowledge base associated with the impact non-fatal drowning has on the survivor, their families, extended social networks, emergency services personnel, and medical professionals etc is being actively developed by newly emerging community groups such as the Samuel Morris Foundation who have a capacity to enhance and contribute to existing partnerships and collaborations within the industry and extend the bank of industry knowledge in new and complimentary ways.

Evidence of such capacity is demonstrated through the Samuel Morris Foundations support for the 2008 and 2009 Royal Life Saving "Keep Watch" national launches. Media appearances with and on behalf of the Royal Life Saving provided a platform to highlight the lived experience of non fatal drowning survivors, to highlight the first hand experience of non-compliant fencing issues and to highlight the key points of Supervision, Restricting Access, Water Familiarisation and Learning CPR.

Newly emerging community organisations also have the capacity to harm existing partnerships and to actively detract from core messages within the industry by working to creating messages that distract or confuse public attention. Accordingly we propose that well established organisations should undertake appropriate due diligence checks when seeking to establish relationships with and work in collaboration with newly emerging community groups.

Due diligence is a phrase with origins in the corporate sector. It is used to describe the steps organisations take to assure themselves that a merger/collaboration is in their best interests. In charities, 'due diligence' describes the investigation of another charity or charities in advance of completion of a merger/collaboration. The main elements of due diligence tend to include commercial, financial and legal matters, although they can also encompass reputational risks. The result of a due diligence exercise is that a charity has full knowledge of the organisation they seek to merge or collaborate with (i.e. there are no surprises) (Charities Commission - UK Government 2009).

To conclude this presentation we will discuss a number of elements that should be included in due diligence testing in order to minimise the reputational risks to long established organisations building partnerships with newly emerging community groups.

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# PROPOSED RESEARCH

## TO IDENTIFY THE IMPACT OF CHILD DROWNING ON FAMILIES AND THE ABSENCE OR PRESENCE OF APPROPRIATE SUPPORT MECHANISMS

**DAWN SPINKS**

*Director, Spinks and Associates Pty Ltd*

**DR ANDREW PAGE**

*Supervisor, University of Queensland*

### ABSTRACT

#### Background/Introduction

The thesis aims to identify the impact of child drowning on families and to identify the range of, and specific function of support post event.

The project was borne as a result of 18 years involvement in drowning prevention and the realisation through networks and my psychology/counselling practice, that families grief following a drowning is often unsupported. It is clear that there are a range of opportunities for support to be offered, from the moment the child drowns through to the hospital, coroner and other professional, family and community mechanisms. The research will examine two specific areas;

1. The various pathways for potential intervention, and in particular the work of the Hannah's Foundation.
2. The impact on the families in relation to emotional well being and family cohesiveness.

It is intended that recommendations be suggested regarding effective and timely pathways for intervention/ support and to identify the key impacts on the families following such a tragic event.

#### Methods

Both quantitative and qualitative methods will be employed. Analysis of the process and timing of intervention will be researched via personal and mailed questionnaires. Families who have experienced a child drowning will be interviewed face to face. Data will be collected from a range of sources including QISU, Coroners reports, Emergency Services, Hospital separation data and the Hannah's Foundation.

#### Results/Evaluation

Analysis will include family cohesiveness and personal mental health of the immediate family members, plus the support intervention that was/was not available to the families post event. An analysis of the work of the Hannah's Foundation will be conducted, which will include interviews with those stakeholders who have been affected by the work of the Foundation.

#### Discussion

It is hoped that the benefits of this research will include improved knowledge of effective and timely intervention post drowning event and an in depth understanding of the role of the Hannah's Foundation. It is also intended to improve the understanding of the impact on families of such a tragedy.

Some challenges include access to non bias families, the temptation to compare accidental death with non accidental and hence lose focus and the fact that the research is mainly qualitative. However, the latter is essential formative research as apart from one paper by Nixon and Pearn in the late 70's there is no research on the impact on families following a drowning death, and there is also no published data on the pathways and range of professional, paraprofessional and community to support following a child death. It is hoped that this research can be extrapolated to other significant tragic events.

#### Conclusion

The research will identify a range of to date hidden issues in relation to drowning deaths, hence closing the circle on primary, secondary and tertiary prevention processes.

### PRESENTATION PAPER

#### Background/introduction

In Australia over 300 people die each year from a fatal immersion.(RLSSA) Of these, approximately 20% are children 18 years and under. That is over 2000 people in 7 years – and more than 400 children. Children under 5 are particularly at risk, with the back yard pool presenting the biggest threat for this age group. Queensland and NSW have the highest drowning rates of all the states and territories.

Over the past 20 years, and particularly in the past 10 years, there have been significant efforts to reduce these numbers; in the main addressing the pool fence in relation to standards, enforcement and education. However, we still have some significant issues regarding enforcing (and even understanding) the application of some of these standards, consistent inspector training programs, data base collection challenges, and we are closer to, but still haven't achieved a real national consensus. This improvement is largely due to the diligent work of the Australian Standards AS1926 committee as well as the tireless efforts of various government organisations and dedicated advocates.

It is acknowledged that a range of approaches is required as no single strategy is sufficient. Programs such as 'Kids Alive' promote this multi-strategic approach, with consideration to CPR, fencing, supervision and swimming lessons. The need for increased knowledge of CPR and what comprises effective and appropriate supervision has been recognised by the water safety advocates and policy decision makers – now we need to better inform the public and implement! The jury is still out regarding the efficacy of swimming lessons for toddlers and young children, especially in relation to the potential negative effect of a false sense of security if the toddler has had swimming lessons and can swim under a controlled environment. To date, there is no published research to suggest affects either way.

One other area that has been ignored from a research perspective is the impact of these fatal child immersions on families. Nixon and Pearn in the late 70's published one paper on the subject, and since then it seems to have been absent in the literature. There is an abundance of literature on the various impacts of loss in regard to individuals' emotional/mental health status and strategies to manage the resultant grief but little on the other impacts such as financial loss, stigma and social isolation.

This research will aim to provide a systematic review of the literature in regard to the psychosocial affects of a traumatic event on families, in this case, fatal immersions, and the access to, and effectiveness of services to support family members post event.

### Methods

Both a qualitative and quantitative approach will be undertaken. There are five phases proposed for this study:

1. Literature review.
2. Semi-structured face to face interviews (n= 150) to establish:
  - circumstances surrounding fatal immersions in children (under 18 years)
  - the psychosocial impact of the fatal immersion on the family
  - the awareness and accessibility of support services post event.
3. Case study (n=30) of the impact of the fatal immersion on family cohesion. Various measurement scales will be used.
4. Written and face to face interview with service providers; e.g. emergency services, social workers, hospital staff, support organisations, community groups, counsellors and psychologists.
5. Case study of one specific support service – Hannah's Foundation.

An interviewer safety protocol will be developed for research conducted in the field and steps for managing participants who may experience stress and require appropriate follow up support. Referral pathways will be established.

### Results

It is expected that information collected may be used to:

- increase knowledge of the impact of a traumatic event (fatal immersion) on families
- inform referral policies and procedures for parents, carers and family members who have experienced a fatal child immersion
- identify the circumstances surrounding the families following the event; for example, the financial, social and health impacts.

### Discussion

The following issues will be considered:

- Recall bias regarding the event.
- Past and current emotional/mental health.
- Different approaches to loss and grief.
- Roles and responsibilities of support services.

### Conclusion

Sadly, child fatal immersions are still likely to occur in a range of water bodies. This research aims to identify circumstances surrounding a fatal immersion, the impact on families and the services available to support the family's needs.

### Acknowledgements

Thanks to:

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- Hannah's Foundation for their willingness to expose and share the work of their organisation to inform this study

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# KIDS ALIVE

## \$4.2 MILLION WARRANTED OR WASTED?

LAURIE LAWRENCE

*Kids Alive*

### ABSTRACT/ PRESENTATION PAPER

#### Introduction

- Recite Kids Alive poem.
- Brief history of Kids Alive.
- Expand using media footage of actual events created to generate publicity and educate public.

#### Why a DVD?

- Education the key to saving kids lives.
- Stagnant statistics ... need for new initiative to make an impact?
- Safety messages need to be front of mind and fresh.

#### Getting the funding..... How did it Happen?

- Chance meeting with Treasurer.
- Shoring up bipartisan support.
- Launching the concept...video footage of Treasurer making the announcement.

#### Creating the DVD and forming partnerships

- Quality product..... reputable production company.
- Government creates an advisory reference group for scrutiny and assistance.
- Focus group testing of product to improve DVD message.

#### Distribution and promotion

- Using the partners.
- Four year plan.
- Media assistance.

#### Conclusion

- Lessons for other safety experts and organisations.
- Will this strategy work?
- Where to from here?

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...water safety research has real world impact, affecting policy and practice.

PRESENTATIONS:

## COLLABORATION

### UNIVERSITY OF BALLARAT WATER SAFETY RESEARCH – WHERE HAVE WE BEEN?

### WHERE ARE WE GOING?

ASSOCIATE PROFESSOR JENNY BLITVICH

*School of Human Movement and Sport Sciences, University of Ballarat*

#### ABSTRACT

##### Introduction/background

The School of Human Movement and Sport Sciences (HMSS) at the University of Ballarat (UB) has keen interest and extensive background in water safety research. UB water safety research has real world impact, affecting policy and practice. This presentation will provide information of past, current and future UB water safety directions.

##### Progress to date

UB researchers have investigated a range of water safety issues. Enquiry into diving spinal cord injury (SCI) resulted in seven peer reviewed publications, including identification of characteristics of high- and low-risk dives; teaching and retention of safer diving skills; competitive swimming dive starts; and home-pool design to minimise diving injury risk. AUSTSWIM adopted the SCI research findings, inviting a UB researcher to write the teaching diving skills chapter for the AUSTSWIM Teacher of Swimming and Water Safety text. NSW government schools must follow “Shallow Water Diving Guidelines” developed from the UB research before undertaking swimming carnivals. UB researchers have teamed with New Zealand researchers to investigate self reported and actual swimming skills and risk perception of undergraduate physical education students; and toddler swim instructor beliefs. Other UB studies include investigations of rope throw skills in children; water slide safety; and an investigation of barriers and facilitators to teaching swimming in schools.

##### Where to from here?

Caregiver supervision of children around beaches is a current topic of investigation, where caregiver self-reported and observed supervisory behaviours are being compared. The initial stage of an investigation of the effect of waders on survival skills of fly fishers is underway, following an approach from Ballarat Fly Fishers. Further comprehensive examination of swim instruction in schools is planned, as is observation of supervision at non-beach open aquatic environments. We are enthusiastic to broaden our links with stakeholders in water safety research, to ensure our research meets industry and community needs.

##### Conclusion

Water safety is a key focus of UB injury prevention research. Staff of the School of HMSS will continue to concentrate on investigating factors that can help towards the aim of reducing drowning deaths by 50% by 2020.

#### PRESENTATION PAPER

##### Background

Staff and research students from the School of Human Movement and Sport Sciences (HMSS) at the University of Ballarat (UB) have been involved in aquatic research since 1980. Keith McElroy was seconded to The Royal Life Saving Society – Australia from 1980-1982 to research techniques and to prepare the first edition of its “Swimming and Lifesaving” manual (McElroy, Ed. 1982).

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This text, in part, contained work from early use of high speed underwater photography. Findings were also presented to Commonwealth Royal Life Saving Society – Technical Conferences in London (1981) and Ottawa (1983). Other early UB research had a competitive focus – investigating starts, turns and swimming techniques. In the late 1980s, research in the area of water safety recommenced and more recent research has been centred in this area. This paper will provide an overview of UB water safety research and its outcomes; as well as outlining research currently underway and future directions. The University of Ballarat supports an Injury Prevention and Safety Promotion research theme, and seeks to be involved in research with outcomes that can be applied within the community.

### Early UB Aquatics Research

Early aquatic research at UB was based around competitive swimming. Investigations into swim starts compared traditional and modified blocks; track starts to grab starts; and looked into the effect of resistance training on various start techniques. In 2000, within a Masters Degree, Paul Quinlan (then the manager of the swimming program at the Australian Institute of Sport) developed software for the design and monitoring of periodised training programs. Even the earliest of the UB water safety research had a competitive predisposition – it compared the physiological and biomechanical efficiency of traditional survival backstroke with a modified version of the stroke in which two dolphin kicks were added at the end of the traditional kicking action.

### UB Water Safety Research mid 1990-mid 2000: Spinal Cord Injury

In the mid 1990s, UB staff members Jenny Blitvich and Keith McElroy collaborated with Professor Brian Blanksby of The University of Western Australia, to focus on the prevention of diving spinal cord injuries. Basing our research on Green and Kreuter's Precede-Proceed model (1991), we investigated the factors that contribute to low risk and high risk dives (Blitvich et al., 1999); how to teach safer diving skills easily and effectively (Blitvich et al., 2000); and how well these skills were retained over an eight month (Blitvich et al., 2003a) and 20 month period without further instruction or practice (Blitvich et al., 2003b). This series of investigations resulted in the establishment of an approach to teaching safer diving underpinned by scientific scrutiny and which has been adopted by AUSTSWIM in their course text *Teaching swimming and water safety: The Australian way* (Sturt, 2002; 2008). It has also been adopted within the NSW Department of Training for schools, in memorandum DN/07/00384 (2002), *Safe water entry for competitions – competitive dive starts*, and reported internationally in *Handbook on Drowning - Prevention, Rescue, Treatment* (Bierens, Ed. 2006). Funding provided by a number of stakeholders assisted in the conduct of this series of research projects – VICSWIM (now Aquatics and Recreation Victoria); the Department of Human Services, Grampians Region; and the Royal Life Saving Society – Australia, Victorian Branch all provided small grants which facilitated the completion of the studies.

Two further outcomes of the diving injury prevention research were publications on the effect of water depth on the depth of starts by competitive swimmers (Blitvich

et al., 2000) and the design of home pools to minimise the risk of diving injury (Blitvich et al., 2009). At a tangent, an investigation was conducted to examine the exit velocity of water slide users (Blitvich & McElroy, 2007), to consider the risk of spinal cord injury.

### Water Safety Research – from 2005

In 2005, Emma Siesmaa (nee Turnock) worked with 93 children to compare the effectiveness of three different rope throw rescue techniques over a distance of 6 m – the distance of the rope throw rescue in RLSSA's Level 6 Swim and Survive award (Turnock et al., 2006). This was the first scientific study to evaluate the rope throw rescue, techniques for which have been taught largely based on tradition. We are heartened that the next edition of the RLSSA publication *Swimming and Lifesaving* will include the findings of this research study.

In 2006, Lauren Petrass commenced her investigations into supervision of children in aquatic environments, initially comparing the level of supervision caregivers offered their children at public swimming pools and playgrounds. It may not surprise an audience of water safety experts such as those at this conference that her findings showed that caregivers provided a higher level of supervision at playgrounds than at pools. This work has been further developed to consider supervision at beaches, and so far has resulted in two publications (Petrass et al., 2009a; 2009b) with two more under review and several others in preparation. The caregiver self-report questionnaire and the supervision observation tool developed as part of Petrass's work (and with assistance from the 2008 Water Safety Conference delegates) has the potential to make a major impact on supervision research, an important outcome given that many researchers consider that supervision is the single most important factor for child drowning prevention. Lauren is presenting findings from her supervision research at this conference.

2008 saw the commencement of research to investigate drowning prevention and the role of aquatics education in Victorian secondary schools (Wiebrecht et al., 2009). Stephanie Wiebrecht conducted surveys and interviews with a number of senior teachers of physical education to identify barriers and facilitators to school aquatics programs. Significant barriers were identified and even in schools with physical education staff who were enthusiastic about their swimming program, it appeared that they felt they did not have sufficient time to make the improvements they would like to see in the swimming and survival skills of their students. Wiebrecht's findings are distressing in that they indicate that among those schools involved in her study, several appear to be decreasing the amount of time they spend on aquatics education as they found the barriers to be too great. This is a study which could be extended significantly, as it considers an area of great importance to the Australian Water Safety Council's aim of reducing drowning deaths by 50% by 2020 (AWSC, 2008).

Another development which commenced in 2008 was a collaboration with Dr Kevin Moran, of The University of Auckland. Moran's earlier work on parental beliefs on the benefits of toddler aquatics classes, along with our mutual interest in drowning prevention, led us to investigate the impact of instructor beliefs on toddler water safety.

Our findings showed that instructors who had completed a pre-school aquatics qualification (a little over 1/3 of toddler instructors) were somewhat more realistic in their expectations regarding the drowning risk to pre-school aged children who had attended aquatics education classes (Blitvich & Moran, 2009). However, despite the assertion in the AUSTSWIM Infants and Pre-school aquatics text that "Irrespective of their aquatic ability infants and preschoolers are never safe when in or around water and must be under constant adult supervision" (AUSTSWIM, 2001, p 19), 53% of survey respondents reported that the most important achievement at the end of toddlers aquatics lessons was for children "to be safe in the water". It seems that there is still a long way to go in educating children, parents and instructors.

Further collaboration continued in 2009, when UB become the Australian component of an international study initiated by Dr Moran to investigate the relationship between perceived and actual aquatic skills among young adults. Pre-service physical education students from New Zealand, Australia, Norway and United States were participants in the study. Preliminary review of the Australian and New Zealand results shows that these students did not over-estimate their skill level and that males and females were not different in their perception of their skill level. However, it appears that when estimating their level of risk in a series of scenarios, females were more conservative than were males. This is an area of research that requires further investigation, as a potential factor influencing the significantly elevated incidence of male drownings in this young adult age group.

### Advocacy

In addition to conducting research, publishing its findings and informing audiences such as the one at this conference, researchers can be instrumental in highlighting important issues with the wider community, through advocacy. An example of this comes from the paper published in the *Journal of Science and Medicine in Sport* entitled *Drowning in Australia is more than just coastal drowning* (Blitvich, 2008) which led to many Australian radio interviews and news grabs. Exposure through media in this way plays a significant role in enhancing public awareness.

### Future directions

This year we have three new research projects underway. The first is a study investigating strategies for managing unexpected submersion when wearing waders. It is anticipated that an outcome of this project will be the development of design and safety recommendations for users of waders.

We are extending the study of perceived and actual aquatic skills of young adults, to evaluate the effectiveness of an intervention which addresses practical skills, knowledge, attitudes and behaviours. To date, there are no published studies which have evaluated such a program. Indeed, the collaborative study which was initiated by Dr Moran and of which we have been a part, is the first of its kind where self report of aquatic skill level has been compared with actual skill assessment.

A further study that is in its early stages is an investigation into risk behaviours of young adults in aquatic environments, with particular emphasis on the use of alcohol. This investigation requires the development and validation of a questionnaire designed to elicit information about risk behaviours from this group. It is well known that many members of the adolescent/young adult age group are predisposed to risk taking, and that this age group is at increased drowning risk, but little research has been conducted to investigate this issue.

### Can you help?

The water safety research we have conducted to date is low cost research. This has been of necessity, as our research budget is extremely limited. However, we are open to other aquatic safety topics, particularly in collaboration with stakeholders who can assist by providing funding. We are keen to establish industry links to enable us to further our research. Please make contact if you would like to discuss research opportunities.

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# AN INTEGRATED APPROACH TO DROWNING AND INJURY PREVENTION

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*General Manager – Programmes and Services, Surf Life Saving New Zealand*

## TIM MARSDEN

*Learning and Development Manager, Surf Life Saving New Zealand*

## BRETT SULLIVAN

*Lifesaving Services and Education Manager, Surf Life Saving New Zealand*

## ABSTRACT

Surf Life Saving New Zealand (SLSNZ) has been working on implementation of a major national coastal public safety strategy since 2007. This presentation serves to update the Australian Water Safety community of a) an update on how New Zealand has progressed, b) learning's we would like to share with conference participants for the betterment of drowning prevention, and c) where to from here in New Zealand?

## AREAS OF FOCUS

### 1. Risk Management

SLSNZ have now implemented a risk management model and information management system which has been applied to over 100 coastal environments. SLSNZ's Coastal Public Safety database is now the most sophisticated source of intelligence relating to the beaches of New Zealand and captures in-depth data relating to the environment, hazards, human usage, activity profiles, facilities and infrastructure and emergency management. The data, when compared to water safety related standards and guidelines, has been used to develop long term action plans for each site that has been assessed.

One of the important learnings from this project is when working with local government or land management authorities (a key stakeholder!), it is all too easy to forget these employees often don't have any formal water safety education. SLSNZ is investigating how the 'wet sector' could provide professional development opportunities for local government employees to minimise this barrier. SLSNZ believe this could have a significant effect on water safety culture and ultimately, the drowning rate.

### 2. Collaboration

New Zealand has in place a government adopted Drowning Prevention Strategy (DPS) which is administered by the state owned Accident Compensation Corporation (ACC). The strategy aims to have a 'water safe New Zealand, free from drowning'.

The structure of the DPS creates a collaborative framework that enables organisations to work together on identified objectives. SLSNZ is collaborating with key partners in establishing evidence based platforms to make hard decisions that must reduce the drowning rate in our country. As a result of this collaboration, two important pieces of work are currently underway including 1) ACC Evaluation of the SLSNZ coastal risk management programme and 2) partnership between Coastguard NZ and SLSNZ to develop an equivalent risk management system in the 'blue water' environment which will integrate into the existing SLSNZ coastal public safety database.

### 3. Community Reach - Extension of Lifesaving Services

Are we smart about how we utilise existing skills in the emergency management sector? The traditional approach to extend lifesaving services has been to open a new surf club or to create a paid lifeguard service. How sustainable is this approach? Is there another way? In addressing these questions SLSNZ have developed a programme known as 'Community Awards'. Specific details of this initiative will be presented in an additional presentation by Tim Marsden (SLSNZ Learning and Development Manager).

### 4. Organisational Efficiency

SLSNZ and our membership have restructured our existing volunteer and professional structure to ensure Surf Life Saving can provide an efficient, effective and consistent service to the public of New Zealand. Key elements of the new structure will be addressed in this presentation with regard to how SLSNZ is in a stronger position to achieve our purpose of preventing drowning in New Zealand.

#### Summary

In approaching this ambitious national strategy to reduce drowning, SLSNZ have leveraged four pillars of development and invested into evidence based decisions, intra-sector collaboration, community reach and through ensuring we do things as efficiently as possible. SLSNZ is excited about the results of this strategy as it materialises itself around our coastline and into other wet environments.

## PRESENTATION PAPER

### Introduction

Surf Life Saving New Zealand (SLSNZ) has been working on implementation of a major national coastal public safety strategy since 2007. This paper serves to update the Australian Water Safety community of a) an update on how New Zealand has progressed, b) learnings we would like to share with conference participants for the betterment of drowning prevention, and c) where to from here in New Zealand?

### AREAS OF FOCUS

#### 1. Risk Management

SLSNZ have now implemented a risk management model and information management system which has been applied to over 120 coastal environments. SLSNZ's Coastal Public Safety database is now the most sophisticated source of intelligence relating to the beaches of New Zealand and captures in-depth data relating to the environment, hazards, human usage, activity profiles, facilities and infrastructure and emergency management.

The data, when compared to water safety related standards and guidelines, has been used to develop long term action plans for each site that has been assessed.

One of the important learnings from this project is when working with local government or land management authorities (a key stakeholder!), it is all too easy to forget these employees often don't have any formal water safety education. SLSNZ is investigating how the 'wet sector' could provide professional development opportunities for local government employees to minimise this barrier. SLSNZ believe this could have a significant effect on water safety culture and ultimately, the drowning rate in New Zealand.

#### 2. Collaboration

New Zealand has in place a government adopted Drowning Prevention Strategy (DPS) which is administered by the state owned Accident Compensation Corporation (ACC). The strategy aims to have a 'water safe New Zealand, free from drowning'. The structure of the DPS creates a collaborative framework that enables organisations to work together on identified objectives. SLSNZ is collaborating with key partners in establishing evidence based platforms to make hard decisions that must reduce the drowning rate in our country.

As a result of this collaboration, two important pieces of work are currently underway including 1) ACC Evaluation of the SLSNZ coastal risk management programme and 2) partnership between Coastguard NZ, SLSNZ and ACC to develop an equivalent risk management system in the 'blue water' environment (access to the water for recreational boat users) which will integrate into the existing SLSNZ coastal public safety database.

The ACC Evaluation of the SLSNZ coastal risk management programme takes the results of two coastal public safety assessments across two sites, implements the range of interventions suggested from the assessment report at the respective sites then measures impact on public safety with a focus on behavioural change. Pre and post observations will be taken in evaluating the effectiveness of the recommended interventions (including but not limited to standards compliant signage, daily hazard information display, tourism operator awareness programme, emergency response beacon, extended lifeguard season, tourist accommodation safety literature (i.e. point of check in material), local education and awareness initiatives, Maori beach safety campaign in conjunction with local Iwi).

#### 3. Community Reach – Extension of Lifesaving Services

Are we smart about how we utilise existing skills in the emergency management sector? The traditional approach to extend lifesaving services has been to open a new surf club or to create a paid lifeguard service. How sustainable is this approach? Is there another way? In addressing these questions SLSNZ have developed a programme known as 'Community Awards'. Community Awards are competencies or components of broader qualifications which are currently delivered to lifeguards, modified and delivered to external agencies or communities to meet a particular need, skills or service gap.

Often in small, remote communities there exists an emergency response group made up of people trained in a range of skills (such as Community Policing, Fire, Medical First Response, Civil Defence, Search and Rescue). Where evidence supports, SLSNZ is pursuing an extension of water rescue skills for such groups while recognising existing (non water specific) emergency response training they may already have.

#### 4. Organisational Efficiency

Following an extensive internal review known as “project groundswell” which examined how our members and stakeholders could guarantee the future of Surf Life Saving.

Since the completion of the review and the dissemination of subsequent reports outlining the road ahead, Surf Life Saving in New Zealand has been restructured meaning significant change to ensure Surf Life Saving can provide an efficient, effective and consistent service to the public of New Zealand. At the core of our new structure is a change, through rationalisation, to one administrative body for Surf Life Saving in New Zealand replacing the 10 separate organisations we have operated with for some time.

A key deliverable through this change is the ability to align SLSNZ’s core services to ensure the public of New Zealand and our visitors enjoy a first class lifeguard service and significantly enhanced safety in our coastal environments.

#### Summary

In approaching this ambitious national strategy to reduce drowning, SLSNZ have leveraged four pillars of development and invested into evidence based decisions, intra-sector collaboration, community reach and through ensuring we do things as efficiently as possible. SLSNZ is excited about the results of this strategy as it materialises itself around our coastline and into other wet environments.

# COMMUNITY REACH EXTENSION OF LIFESAVING SERVICES

TIM MARSDEN

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## ABSTRACT

Are we smart about how we utilise existing skills in the emergency management sector? The traditional approach to extend lifesaving services is to open a new surf club or to create a paid lifeguard service. How sustainable is this approach? Is there a better way? In addressing these questions SLSNZ have developed a programme known as ‘Community Awards’. Community Awards are about identifying existing capacity in communities (such as police, rural fire, swim clubs, Maori Iwi etc) and adapting traditional ‘lifesaving’ awards to enable often remote, inaccessible and culturally diverse communities the ability to provide water rescue and other water safety related interventions. By sharing the knowledge the lifesaving world has developed over 100 years with these communities, it enables a significant extension of lifesaving services.

There has always been interest from a number of ‘communities’ wanting some form of rescue training specific for the surf environment. In the past this type of training was often facilitated by clubs or districts and was very ad hoc. Instead of sharing surf lifesaving knowledge in this way SLSNZ is now collaborating directly with those involved to create quality programmes aligned to its education framework.

In summary, not only does the creation of Community Awards extend our services, it furthers relationships with communities and organisations, increases the value of the SLSNZ brand and increases awareness of those that would otherwise not be trained in any form of aquatic rescue.

## PRESENTATION PAPER

### Context

In 2005 SLSNZ developed a National Lifesaving Plan (NLP) which focussed on causes of drowning and four strategies to target them, these are listed below:

1. Education and information
2. Denial of access and or provision of warnings
3. Provision of supervision, and
4. Acquisition of skills.

SLSNZ’s NLP is about strategically, centrally and proactively targeting people, communities and/or environments at risk and make effective decisions about which control measures to put in place to mitigate identified risks.

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The focus of this paper is on the provision/extension of lifesaving services (number 3 above). The traditional approach to extend services is to open a new surf club or to create a paid lifeguard service. Unfortunately this approach is often not sustainable or practical.

### SLSNZ's Member Education Framework

In the last two years SLSNZ, in conjunction with Dangerous Minds, have created their own Member Education Framework (MEF). The MEF was created with the following in mind;

- a common philosophy for training and education to be developed.
- a member/role-centric framework that communicates clear training needs.
- consideration to be given to external training and assessment trends.
- consolidation of existing training and assessment content and practices.
- further training and assessment needs to be identified and met.

The education covered on the MEF ranges from Lifeguards and Coaches to Officials and Examiners. Some of the competencies located on the MEF are also located on the New Zealand Qualifications Framework, for example first aid. These competencies or Unit Standards are recognised and delivered by SLS or in some cases external providers.

The MEF has given structure to all of SLSNZ's qualifications through the creation and linking of pathways and the competencies within them. As all member education is linked within the pathway it's possible for members to travel through the pathway vertically (along the pathway) and horizontally (from one pathway to another).

### The creation of Community Awards

In the past, SLSNZ Clubs and Districts have been approached by other local 'communities' (such as police, rural fire, swim clubs, Maori Iwi etc) seeking specialist training in surf rescue skills. 'Communities' have then been delivered ad hoc training to fulfil their needs.

With the development of the NLP 'communities' can be identified and approached to have relevant training delivered to them to fulfil the extension of lifesaving services. The MEF now gives SLSNZ the ability to create external education programmes from internal competencies. Education delivered to 'communities' can be taken directly off the MEF and adapted to suit the group it's being delivered to. This centralised approach ensures 'communities' are being taught the correct skills and knowledge to fit their role in extending lifesaving services.

### Case Study: Community Lifesaving Certificate – Surfing New Zealand

The Community Lifesaving Certificate – Surfing New Zealand (CLC-SNZ) was the first of the Community Awards to be developed. Surfing New Zealand (SNZ) saw a need to include SLS specific rescue skills in their Coaching Level One qualification, initially this was achieved by candidates having to gain the Bronze Medallion/Surf Lifeguard Award through a SLS club.

Qualifying SNZ coaches with their Bronze/Surf Lifeguard Award became problematic as some Surf Life Saving Clubs (SLS) were not prepared to invest time and money into training people not interested in patrolling or being a part of the club in any capacity.

SLSNZ and SNZ soon realised that there was a need to develop a system where relevant surf rescue skills can be taught without surfing coaches having to complete a SLSNZ internal course.

The main reason behind the inclusion of the surf rescue skills was in case a surfing school attendee ever needed rescuing. There are approximately 30 surfing schools in New Zealand, some of which do not operate on a patrolled beach or near a patrolled area on a beach. Training of surfing coaches with SLS rescue skills is seen as a way to reduce the risk of surfing school candidates drowning by extending lifesaving services.

### Skill and knowledge analysis

Initially the resources that would be available to Surfing Coaches needed to be identified to give a full picture of how they might be able to respond in situations. There was an obvious difference in rescue equipment available to surfing coaches, very few (if any) had rescue tubes, but all had surf boards capable of carrying two people.

The next part of the step was to identify the competencies that surfing coaches would need, for example: perform a board rescue. Competencies identified also may have relevant skills or knowledge considered as prerequisites, these were also included.

Throughout this analysis delivery options were identified. The best fit in this situation was to train the SNZ Coach facilitator to be able to run the SLSNZ specific section of the course. All administration for the SLSNZ component is still completed by SLSNZ.

### Analysis of the SNZ Coaching Level One qualification

This analysis was conducted in conjunction with SNZ, once completed it became apparent where SNZ were already addressing competencies identified in step one. Where double ups were found they could then be excluded from the SLSNZ section of the course. An example of a competency that was 'doubled up' was "describe the features of the surf environment".



### Design & Development

Much of the design and development of the SLS specific sections of the course had already been addressed in Surf Lifeguard training courses. It was simply a matter of using the competencies from the MEF and making minor adaptations to the instructional material.

### Implementation

Procedures were put in place for both the training of the facilitators and the candidates. The SNZ coach facilitator attended a SLSNZ Facilitators Training weekend and was given the opportunity to practice delivering sections of the programme to candidates.

The course has now been delivered three times by SNZ in the last six months. All SLSNZ specific paperwork from the course is sent in to SLSNZ to record attendee names and distribute certificates.

### Evaluation

Evaluation of the course is achieved in a number of ways. Firstly a questionnaire is given to candidates to fill in after every course, this also gives an opportunity for them to identify other areas of SLS specific knowledge and skill they would see as beneficial in their role as a surfing coach.

Annual evaluation of the course by SNZ and SLSNZ will also be conducted. This evaluation will cover not only the course material but also the process as a whole including training of the facilitator.

## DISCUSSION

### Benefits

It was clear from the beginning that the benefits would be more than the up skilling of people in the surfing 'community' with SLS rescue skills. The relationship that has been developed with SNZ is of great importance as we do share the same patch of water from time to time. This in turn adds value to SLSNZ's role in the community and increases exposure positively.

The case study has outlined the ease at which internal competencies from the MEF can be adapted for use in the external space. A number of other organisations have already been identified that will benefit from a similar relationship with SLSNZ.

### Acknowledgements

- Dangerous Minds
- Surfing New Zealand

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# TOWARDS A COLLABORATIVE APPROACH TO

## REDUCE VICTORIA'S TODDLER DROWNING TOLL

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### SARAH BRACCHI

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## ABSTRACT

### Background/Introduction

Drowning is one of the leading causes of unintentional injury death in children 0-4 years. A review of key initiatives was undertaken in order to provide future directions to work towards a zero toddler drowning toll in Victoria.

### Methods

Data were collected on all drowning incidents across Victoria from 1995/1996 to 2008/2009. The evolution of public campaigns targeting toddler drowning were also reviewed along with key policy and legislative changes.

### Results/Evaluation

Keep Watch is a public education program of Royal Life Saving Society - Australia, aimed at preventing drowning deaths of children in all aquatic locations. The Play It Safe by the Water (PISBTW) campaign is a state-wide initiative that aims to promote water safety throughout the Victorian Community, from the beach to inland waterways, the pool and in the home. PISBTW is a major water safety campaign that combines general public awareness campaigns and targeted education programs using a collaborative approach between various water safety organisations, the community and state and local government. Linkages between these programs, along with changes in legislation have proved highly successful in Victoria. Since the inception of Keep Watch and PISBTW campaigns the unintentional drowning rate in children 0-4 yrs in Victoria has decreased by more than half from 1995/1996 to 2008/2009.

### Discussion

The benefits of collaborative approaches include providing the community with consistent messages. Utilising an overarching well known and recognised brand has assisted the use of an umbrella message to support direct targeted messages while at the same time linking back to a holistic state water safety message.

### Conclusion

This drowning prevention strategy provides an example of a multi-focussed, multi-organisational approach to drowning prevention.

## PRESENTATION PAPER

### Background/Introduction

The aims and objectives of the project were:

- To determine the key water safety initiatives undertaken in Victoria and assess the success or otherwise of these initiatives.
- To assess the Victorian drowning toll since the introduction of key legislation relating to toddler drowning.
- To provide future directions to work towards a zero toddler drowning toll in Victoria.

The project focused on Victoria and assessed key state-wide initiatives targeting parents and carers of infants and toddlers aged 0-4 years.

### Methods

The evolution of public campaigns targeting toddler drowning from 1995/1996 to 2008/2009 were reviewed along with key policy and legislative changes. Data were collected on all drowning incidents across Victoria over the same time frame.

### Results/Evaluation

Over the 14 year period from 1995/1996 to 2008/2009 the unintentional drowning rate in children 0-4 yrs in Victoria has decreased by more than half. Figure 1 shows the decrease in the number of drowning deaths over the same 14 year period. However, of concern is the continued number of non-fatal drowning incidents in toddlers in Victoria which has not shown a similar downward trend.

Two major public awareness campaigns targeting toddler water safety were identified. Keep Watch is a public education program of Royal Life Saving Society - Australia, initiated in 1996. The program targets parents and carers of children through child health care networks and media awareness campaigns.

The Play It Safe by the Water (PISBTW) campaign is an initiative of the Victorian Government which brings together key water safety agencies in Victoria to promote water safety throughout the Victorian Community, from the beach to inland waterways, the pool and in the home. PISBTW is a major water safety campaign that combines general public awareness campaigns and targeted education programs using a collaborative approach between various water safety organisations, the community and state and local government.

The support of Keep Watch by the PISBTW campaign allowed for wider promotion of the campaign and ongoing linkages between these programs, have allowed for consistent messaging to be provided in various format to reach a wider number of Victorian parents and carers.

These programs coupled with key changes in legislation, particularly in regards to home pool fencing, have proved highly successful in Victoria.

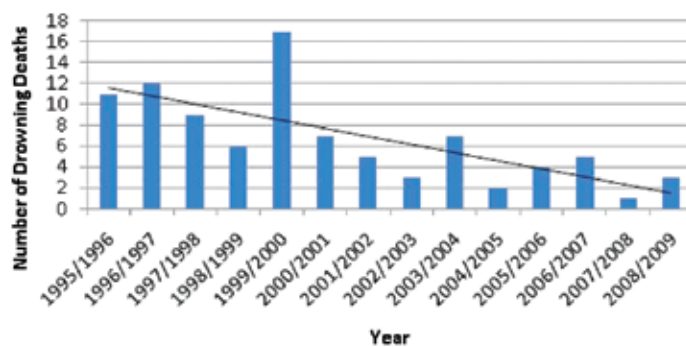


Figure 1. Toddler (0-4yrs) drowning deaths in Victoria from 1995/1996 to 2008/2009

### Discussion

The benefits of collaborative approaches include providing the community with consistent messages. Utilising an overarching well known and recognised brand has assisted the use of an umbrella message to support direct targeted messages while at the same time linking back to a holistic state water safety message.

More work is required to continue to reduce the toddler drowning toll as well as reduce the number and severity of non-fatal drowning in this group. In particular, the issue of maintenance and compliance of home pool fencing legislation requires immediate attention. Ongoing analysis of the key water safety initiatives is also required to ensure the programs keep updated and that messages continue to reach the target audience.

### Conclusion

This drowning prevention strategy provides an example of a multi-focussed, multi-organisational approach to drowning prevention.

### Acknowledgements

Life Saving Victoria is most grateful to both Royal Life Saving Society - Australia and the Play it Safe by the Water campaign for their ongoing support.

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# COLLABORATION: AN AUSTRALASIAN EXPERIENCE

ROYAL LIFE SAVING SOCIETY - AUSTRALIA  
& PHILIPPINE LIFE SAVING SOCIETY

SHAYNE BAKER

National Education and Training Advisor,  
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## ABSTRACT

The Republic of the Philippines is an archipelago of 7107 islands in Southeast Asia with an estimated population of 92,000,000 people. The World Health Organisation estimates child drowning in the region is 6,000 each year.

A collaborative approach is an often-used term that is used in the development of funding initiatives with government and private agencies at all levels. In many applications it reflects the desire to encourage shared learning, knowledge and problem solving to achieve common goals between organisations. This paper will provide an insight to a collaborative approach operating for the last three years at an international level between the Royal Life Saving Society - Australia and the Philippine Life Saving Society working as equal partners to develop a strategy to address the critical drowning statistics impacting on this nation.

## PRESENTATION PAPER

### Background

A visit by a small group of Filipinos associated with the Philippine Swimming Association to Australia in 2007 was the start of a venture that would become a collaborative partnership between the Royal Life Saving Society - Australia (RLSSA - the longest serving life saving organisation in Australia) and the fledging Philippine Life Saving Society (PLS). The desire of the Filipinos was to develop a strategy to counter the drowning dilemma that exists in the Philippines. Official data is not readily available in the country, though The World Health Organisation estimates child drowning in the region is 6,000 each year. It was also recognised that many of the issues that the PLS were concerned about were being addressed through a number of member organisations of the International Life Saving (ILS) and in their view it would be beneficial to draw on the extensive experience and expertise that was available.

### Methods

Since 2007 there have been two delegations from Australia in 2008 and 2009 at the invitation of the Philippine Life Saving Society with two distinct objectives.

1. Provide initial training and accreditation to the inaugural members of the Philippine Life Saving Society through the RLSSA 'Swim & Survive' program and the Bronze Medallion.
2. Provide re-accreditation of the inaugural Philippine lifesavers, support the PLS trainers in the accreditation of the next generation of lifesavers and the introduction of Lifesaving Sport to the people of the Philippines.

### Results

Since the initial enquiry in 2007 and two missions to the Philippines in 2008 and 2009 the PLS has achieved the:

- Formation of the Philippine Life Saving Society (in affiliation with the Philippine Swimming Association).
- In excess of 1500 people trained to Bronze Medallion level throughout the Philippines.
- Formal links established with Philippine Volunteer Coast Guard, Philippine Swimming and Philippine Olympic Federation.
- Briefings conducted for resort owners on water safety, lifeguard training and drowning prevention.
- Establishment of Regional operations at Luzon, Visayas and Mindanao to coordinate and promote programs within the local community.
- Philippine Life Saving Society accepted as full member of the International Life Saving Federation.

### Discussion

In three short years the Philippine Life Saving Society has experienced phenomenal growth and impact throughout the Philippines and after two missions by representatives from the RLSSA to support and share resources and expertise it is particularly pleasing to note the achievements and the strong alliances that have been formed. The patterns of drowning in the Philippines reflect those experienced across the region, with a predominance of children drowning close to home in a variety of water vessels, and children, adults and the elderly drowning during seasonal weather events and flooding. The PLS and the entire community recognises the need to work collaboratively with allied bodies and other international organisations if it is to address the critical drowning figures throughout the Philippines. The greatest strength that has been demonstrated in all activities associated with the PLS is the commitment, dedication and discipline demonstrated by the volunteers that have joined the effort. For example on the first visit with the initial 50 participants at Los Banos one individual was so committed to the program that after his employer refused him permission to take leave from work, he quit his job and sold the family pig to pay for his costs to become a lifesaver.

### Conclusion

The Philippine Life Saving Society has adopted an approach to 'drowning prevention' that builds on proven strategies from other ILS member organisations and embraces other allied organisations as partners in their endeavour. As such, they will continue to experience rapid growth and in a relatively short space of time and make impressive impacts on the drowning toll that claims so many Filipinos.

### Acknowledgements

The President and members of the Philippine Life Saving Society <http://www.philippinelifesaving.org>

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...research has indicated that members of the Aboriginal and Torres Strait Islander communities are four times more likely to drown or be hospitalised from near-drowning than non-Indigenous populations.

## PRESENTATIONS:

# HIGH RISK POPULATIONS

## INDIGENOUS AQUATIC SAFETY TRAINING UNIT

### JOHL STOREY

*Community Development Officer – Indigenous Aquatic Safety Training Unit,  
Royal Life Saving Society – New South Wales*

### ABSTRACT / PRESENTATION PAPER

#### Background/Introduction

Research has indicated that members of the Aboriginal and Torres Strait Islander (ATSI) communities are four times more likely to drown or be hospitalised from near-drowning than non-Indigenous populations.

In 2005 Royal Life Saving NSW implemented the Mobile Indigenous Training Unit (MITU) to service the Murdi Park region of NSW. The success of the MITU in Western NSW highlighted the need to continue this vital water safety education throughout all Indigenous communities of NSW, including metropolitan, regional and remote locations.

It was with this in mind that Royal Life Saving NSW implemented the Indigenous Aquatic Safety Training Unit (IASTU) to adopt a similar approach to the Murdi Park initiative for the Indigenous communities of Sydney's greater metropolitan area.

The Indigenous Aquatic Safety Training Unit aims to:

- Develop links between the Indigenous community, RLSSA and local aquatic facilities.
- Provide targeted community members with skills and qualifications to secure employment.
- Influence community activities, including those conducted by schools.
- Advocate for safe participation and enjoyment of aquatic recreation.
- Improve wider community knowledge and understanding of water safety, drowning prevention and aquatic recreation.

IASTU delivers free vocational training with a focus on safety and aquatic programs, thus providing opportunities for Indigenous candidates to gain qualifications in First Aid, Bronze Medallion, Pool Lifeguard and AUSTSWIM.

#### Method

Community engagement is key to the success of such programming. Indigenous communities are engaged through local aquatic facilities, secondary schools (Aboriginal Education Officers), and major Indigenous organisations such as National Aboriginal Sporting Chance Academy (NASCA) and the National Centre for Indigenous Excellence (NCIE).

Training provided is flexible and considers the needs of each individual. Training is provided in aquatic centres, schools and Indigenous 'hubs' or meeting places. Training is sensitive to cultural needs and special programs have been set up to assist – Women's Only Pool Lifeguard Package, Secondary Schools Program and Indigenous Parents First Aid Courses.

Funding assistance provided by the NSW Government, and the Elsa Dixon Foundation allows IASTU to implement these services.

IASTU was implemented in May 2009 with training taking place in June 2009 so that employment opportunities would commence before the 2009/2010 summer season.

## Results

Success of IASTU services has been measured through the quality of training provided, increased employment of Indigenous candidates, high participation rates, and improvements in community awareness on aquatic safety issues.

In the first 10 months of the project more 600 people have participated in Vocational Education and Training courses. Employment outcomes from the training have seen many candidates gain work in the aquatic and recreation industry, including 21 people employed at the National Centre for Indigenous Excellence.

There have only been minor barriers to the project and each of these was overcome through consultation with individuals and major organisations to find the most beneficial solution.

Reaction from Indigenous communities is very positive with many people signing up to learn these vital lifesaving skills. Many Indigenous organisations are supporting the programs by providing cultural consultancy, and course promotion. Many of the local aquatic centres are supporting the initiatives by providing access to their facilities, offering employment opportunities to successful candidates and developing more culturally sensitive venues.

## Discussion

IASTU's success is very encouraging for the future of Indigenous programming. Not only will ATSI communities continue to receive quality aquatic safety education and training, it is also hoped services can be increased to meet the growing demand and need.

Future benefits of IASTU:

- Increased services to Northern, Western and Riverina regions of NSW
- Development of Indigenous Aquatic Safety Forums across NSW
- Lower drowning and injury rates for all ATSI communities
- Reduction in health-related problems, such as obesity, and diabetes

Replicated services would be most beneficial to all ATSI communities across NSW, as well as other cultural/community groups.

## Conclusion

Whilst IASTU services are succeeding in reaching ATSI communities there is so much more to be done.

The two most disturbing facts continue to be:

- Lack of Indigenous infants and young children in structured swimming/safety programs.
- Low number of Indigenous adults trained in first aid, resuscitation, and/or aquatic safety qualifications.

## Additional Information

- When working with cultural groups different from your own show sensitivity and flexibility. Learn about the culture and how best you can fit with their ways. Develop positive relationships with key organisations and leaders within the community.
- Be aware of old-fashioned values in some organisations that may not reflect those of the groups you are assisting.
- Word of mouth within cultural groups is strong, therefore beneficial for promotion of programming and promotion of water safety information.

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Succeeding with this program has meant addressing the culture and belief systems of the Yolngu people of north-eastern Arnhem Land.

# IMPROVING WATER SAFETY SKILLS

## IN INDIGENOUS COMMUNITIES

**JULIE SNELLING**

*Manager, Australian Lifesaving Academy, Surf Life Saving Northern Territory*

**TONY SNELLING**

*Chief Executive Officer, Surf Life Saving Northern Territory*

### ABSTRACT

In March 2009 Surf Life Saving Northern Territory (SLSNT) affiliated Australia's first surf life saving club in an indigenous community. The Walngawu Djakamirri Surf Life Saving Club is based at Yirrkala, in NE Arnhem Land, 20 kilometres south of Nhulunbuy, and now has a membership exceeding 100 - all drawn from Yirrkala and the 'homelands communities', some as far as 270 km away.

The drive and enthusiasm for the club's formation came from a water safety training program, initiated in 2007 by Surf Life Saving NT, to help reduce the over-representation of indigenous people in drowning incidents and aquatic-related injuries, to improve the proportion of local people in the community with competent lifesaving and first aid skills and to promote a fit and healthy lifestyle.

The project is delivered by Surf Life Saving staff and volunteers from all over Australia and is embedded in the school syllabus allowing the eight units of accredited lifesaving training from the Public Safety package to assist local youth in their high school certificate pathway and to support their applications for employment and work experience, especially in the emergency and defence services and the hospitality and tourism industries. The lifesaving education program is supported by the introduction of a range of new aquatic sports.

Succeeding with this program has meant addressing the culture and belief systems of the Yolngu people of north-eastern Arnhem Land. They divide their society (and much of the natural world) into two moieties: Dhuwa and Yirritja. Each of these is represented by people of a number of different groups, each with their own lands, language differences and philosophies. A practical implication is that some of the lifesaving students cannot work closely with another. Other issues for our lifesaving trainers were literacy and numeracy competencies and the physical remoteness of the location.

The water safety program aims to 'drown-proof East Arnhem Land' and is now gathering further momentum as local volunteer Surf Club members become qualified to train others.

### PRESENTATION PAPER

#### Introduction

In 2007 Surf Life Saving Northern Territory initiated a lifesaving program at Yirrkala, a remote coastal community in East Arnhem Land in the Northern Territory. The long term aim of the pilot program was to reduce the over-representation of indigenous people in drowning and water related injuries, as presented to NT hospitals. The program was designed to target the largest risk group, 15 to 19 year old youth, though recognising that males were more at risk than females.

Community elders and local key stakeholders were adamant the program must do more than just leave behind a certificate or report. They were also looking for a program that would:

- build social capital
- contribute to the community's asset base
- offered or supported a leadership development program

Consequently the program sought to achieve the following outcomes:

1. Integrate the SLSA Bronze Medallion & Certificate II in Public Safety (Aquatic Rescue) into the school curriculum.
2. Train a small group of local indigenous men and women, including teachers, with the SLSA Bronze Medallion & Certificate II in Public Safety (Aquatic Rescue).
3. Introduce a range of surf sports to assist the maintenance of lifesaving skills and promote fitness, health and well-being in the community.
4. Provide lifesaving equipment at local beaches.
5. Conduct regular sports training and competition at local beaches and pools.
6. Offer work experience and/or traineeship opportunities for interested school students (minimum Certificate II in Public Safety).
7. Develop 3-5 year plan for the formation of a Surf Life Saving Club at Yirrkala to serve as an East Arnhem hub for the promotion of lifesaving skills.

### Methods

Due to the remote location of Yirrkala, in NE Arnhem Land, the delivery of the program needed to be delivered in time blocks of 4-5 days. Following discussion with the two local schools it was resolved to offer accredited training wherever possible up to the Certificate II in Public Safety. The training could then contribute to the attainment of the NT High School Certificate.

Literacy issues needed to be addressed and a high ratio of trainers to students was needed. This was achieved by providing a mix of volunteers and SLSNT staff. Volunteers were drawn from NSW, WA and SA and were important role models for local youth.

The secure storage of lifesaving equipment was initially provided by the Yirrkala Community Education Centre and later with the assistance of a container provided by Rio Tinto.

Although targeted at school students, the program was flexible enough to include other members of the community. This outreaching of qualifications was an important opportunity for 'buy-in' by community members and the development of a family-orientated program.

Flexibility was important. School attendances fluctuate and unforeseen social events can be disruptive to plans.

### Timeframe

The project commenced in 2007, was based on a 3-5 year timeframe and included participants being qualified to the SLSA Bronze Medallion in the first year and the formation of a Surf Life Saving Club in the fifth year (2011). This original timeframe was not achieved. The attainment of qualifications at SLSA BM/Cert II standard took longer than planned while the formation of the Surf Life Saving Club was accelerated by community enthusiasm.

### Results/Evaluation

Accredited Training: The refinement of the delivery of accredited training, and the general improvement in underpinning knowledge and physical skills amongst the target population saw the achievement of training outcomes increase significantly from 2007 to 2009.

#### 2007

30 Surf Rescue Certificate  
6 Surf Survival Certificate  
25 Resuscitation Certificate  
13 Units of Competency awarded

#### 2008

31 Surf Rescue Certificate  
6 Surf Survival Certificate  
25 Resuscitation Certificate  
31 Provide Emergency Care  
124 Units of Competency awarded

#### 2009

20 SLSA Bronze Medallion / Certificate II in Public Safety  
23 Surf Rescue Certificate  
15 Surf Survival Certificate  
15 Provide Emergency Care  
4 Resuscitation Certificate  
9 Radio Operator's Certificate  
252 Units of Competency awarded

### Walngawu Djakamirri Surf Life Saving Club

7 March 2009: Affiliated with Surf Life Saving NT  
7 June 2009: Inaugural club Annual General Meeting  
7 August 2009: Official Opening of club by Hon Jenny Macklin MP

### Changes experienced by Target Group

1. Confidence and competence in aquatic related recreational activities and lifesaving activities has increased markedly.
2. The number of youth able to complete the Bronze Medallion pre-requisite swim (Swim 400m <9mins) on Day 1 of each annual program increased from 0 (2007) to 68% (2009).
3. The number of children assessed by FaHCSIA as engaged in petrol sniffing, or at risk, dropped from 64 to 0 in 2009.
4. Non-smoking messages reinforced with anecdotal evidence of some impact.

### Discussion

- Sustainability is subject to a number of factors – reducing Government support, availability of a club facility, transience of community leaders.
- Challenges met – literacy, health & fitness, availability of equipment.
- What could be improved – literacy requirement of resources used for higher lifesaving awards.
- The club-based model. How can we make efficient use of a club facility and avoid infrastructure duplication in coastal communities?

### Conclusion

- The appetite for lifesaving knowledge and skills has been surprisingly high.
- Mixing lifesaving with sport is an attractive combination for youth.
- Youth anaerobic ability was high, aerobic capacity low. Over three years aerobic capacity has markedly increased.

### Acknowledgements

- Australian Sports Commission
- Department of Families, Housing, Community Services and Indigenous Affairs
- Nhulunbuy Indigenous Coordination Centre
- Northern Territory Government
- Rio Tinto Aboriginal Fund
- Surf Life Saving Australia
- Yirrkala Community Education Centre
- Yirrkala Homelands School

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# MEETING THE NEEDS OF INDIGENOUS COMMUNITIES IN SOUTH AUSTRALIA

## CAROL VELDHUYZEN

*AUSTSWIM Representative / Presenter - The Australian Council for the Teaching of Swimming and Water Safety*

### ABSTRACT

AUSTSWIM is working closely with indigenous communities in South Australia to commence offering the AUSTSWIM Teacher of Swimming and Water Safety accreditation course to local indigenous communities. As part of ensuring the course meets the learning needs of these communities AUSTSWIM will be offering a varied delivery model and as a result the current resources will be adapted in consultation with the communities.

The session will focus on the following areas:

- Indigenous and English as another language.
- Practical education versus lecture style learning.
- Implementing practical training.
- The need for local teachers in indigenous community pools.
- How best to meet the needs of ESL students.
- Allowing communities to self manage pools and learning to swim and water safety programs.
- Developing partnerships between communities and aquatic agencies.
- Linking with TAFE.
- Contemporary issues in a multicultural environment.

Carol is an AUSTSWIM presenter, teacher also swimmer and coach. Carol has been involved in aquatics for over 35 years and believes that everyone should be able to swim lifelong.

### PRESENTATION PAPER

#### Project Aim

To support Indigenous and English as another language communities to accredit community members as AUSTSWIM Teacher of Swimming and Water Safety teachers and to increase participation in swimming and water safety throughout Indigenous and EAL communities. Increase physical and mental health through aquatics programs and water safety awareness throughout Indigenous and EAL communities. To enable Indigenous and EAL communities to self determining in the delivery of AUSTSWIM swimming and water safety programs in their communities.

### Project Outline

Modify the AUSTSWIM Teacher of Swimming and Water Safety presentation from a theory based to a practical based delivery. Adapt assessment methods to suit Indigenous and EAL and to meet Vocational education and NTIS competency requirements. Modify resources to visual learning, poster graphics lesson plans and interactive resources.

### PROJECT FUNDING:

#### Partnerships

The project came about from a partnership between AUSTSWIM, Jack Johncock Eyre Peninsula Indigenous Sport and Recreation Officer, Mark Fisher Eyre Peninsula Active Communities Field Officer, South Australian Aboriginal Sports Training Academy at Port Lincoln High School (SAASTA), Barbie Clutterbuck Community Recreation Certificate Lecturer/Aboriginal Education/Vocational Education TAFE Port Lincoln Campus and Carolyn Veldhuyzen AUSTSWIM SA.

#### Outcomes

Modify delivery modules for practical delivery	Completed
Design lesson plan graphics and visual interactive resources	Pending
Ensure assessment competency tools meet NTIS framework	Pending
Facilitate access to swimming, water safety, coaching and recreation programs	Pending
Incorporate practical delivery with RLSS bronze medallion & SLSS rescue award	Pending
Incorporate CPR into practical delivery	Pending

#### Current Project Status

At the commencement of term 1 2010, the #SAASTA indigenous students commenced the AUATAWIM Teacher of Swimming and Water Safety Award as part of their year ten/eleven studies. Some students have already completed their Surf Rescue and Bronze medallion awards along with First Aid training in 2009. The aim is to complete the practical delivery of all modules in term 1. Term 2 will see SAASTA students completing practical supervised teaching experience working with a group of Indigenous students from Kirton Point Primary School. Term 3 aims to see SAASTA students teaching Active After Schools with the same group of Indigenous students and following those students through to the primary Interschool Swimming Carnival. Term 4 incorporates a week-long camp to the Yalata Community for final assessment of skills, where SAASTA students will teach the primary students from the Community School Swimming and Water Safety while engaging in Cultural Activities under the guidance of Cultural broker and community member Jack Johncock, EP Indigenous Sport and Recreation Officer.

The project spans 2010 and aims to provide quality instructors to local indigenous communities.

*#SAASTA South Australian Aboriginal Sports Training Academy is a South Australian Initiative encouraging Indigenous Youth to complete SACE studies with a focus on sport coaching, officiating and recreation. Completed courses gain students SACE points and encourage students to provide sports coaching and officiating to communities. Active after schools community volunteer program forms part of their SACE commitment. SAASTA campuses are based at Port Lincoln, Port Augusta, Whyalla, Para West and Ceduna.*

#### Promoting Partnerships

The partnerships between Sport and Recreation, TAFE and AUSTSWIM are ensuring quality training. It is hoped that other sports accreditation courses can be delivered in a similar format of practical vs theory. The course will be rolled out at the AUSTSWIM National Aquatic Conference in July 2010, however the initial course is already underway in Port Lincoln. With the strong presence of the SLSS and the RLSS in the other states and a strong partnership existing between AUSTSWIM and RLSS ensures the availability of incorporating practical delivery of the Bronze, rescue awards and CPR into Indigenous and EAL.

#### Difficulties

- Adapting Legal principles as there are differences with tribal law and understanding some of the concepts.
- Paperwork – Many communities do not register births or see the need for 'paperwork'.
- English is often the 5th or 6th language spoken by communities and sometimes more.
- There can be strict rules regarding men teaching men and women teaching women.
- Course attendances.
- Failing to use cultural brokers.

#### Funding

Initial funding was gained through the SA Office of Sport and Recreation and has been used to cover training in the Indigenous OCHRA Interactive train the trainer program through TAFE SA covering aspects of cultural awareness and Indigenous education, Project development and adaptation and resources. Funding applications and partnerships between AUSTSWIM, Be Active Sport and Recreation, SAASTA, DECS Swimming and Aquatics unit, TAFE, Active After Schools and South Australian Sport and Recreation Indigenous Unit are currently being sought to see the project through to completion.

The strength of the program lies in the not for profit organisation of AUSTSWIM and the partnerships developed to benefit Indigenous communities. I believe it is one of the main strengths of the current partnership is that the basis of the program is not being driven by commercial interests but rather by fulfilling a need within Indigenous and EAL communities.

### Discussion

- Experience with aquatics program delivery in WA, NT and outback QLD and NSW.
- Working together – RLSS and SLSS.
- Suggestions, feedback and moving forward.

### Conclusion

The partnerships developed have been one of the key factors in making this project successful, none of the key stake-holders have a commercial interest in the project and are driven entirely by a perceived need in Communities.

For the project to continue to be successful Nationally a strong partnership with existing stake-holders alongside RLSS and SLSS is essential, in that a combined practical delivery of the AUSTSWIM Teacher of Swimming and Water Safety Award, RLSS Bronze Medallion, CPR and SLSS Surf Rescue Award will equip Communities with the essential skills to promote long term Swimming and Water Safety skills.




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# ACT ABORIGINAL AND TORRES STRAIGHT ISLANDER AQUATIC RECREATION PROGRAM

### BRADLEY BELL

Aboriginal Project Officer, Royal Life Saving Society –  
Australian Capital Territory

### ABSTRACT

#### Background/Introduction

The Indigenous Aquatic Recreation Project aims to;

- Build stronger links between Indigenous community members and groups, RLSSA and their local community aquatic facilities
- provide community members with skills and qualifications to;
  - secure employment as pool lifeguards and/or swimming teachers
  - influence community activities, including those conducted by schools
  - act as advocates for safe participation and enjoyment of aquatic recreation
  - increase use of local aquatic facilities by all community members
- improve wider community knowledge and understanding of water safety, drowning prevention and aquatic recreation
- assist aquatic facilities to provide community friendly facilities that meet the needs of the Indigenous community

#### Methods

The program is based on the RLSSA Community Development Model. The Strategies and activities were developed in each of these areas and highlight how the ACT Indigenous Community will become involved in the planning, implementation and evaluation of the program. The key concepts are:

- Community engagement
- Training and employment
- Community participation
- Communication
- Project management
- Project evaluation

#### Results/Evaluation

Key Results:

- Creation of the program branding - Ngadyung (Water)
- Formation of Ngadyung learn to swim program
- Ngadyung Elders Aqua Program
- 12 Participants gaining employment in the Aquatic Industry
- Participation by over 50% of the local ACT Aboriginal Community.



## PRESENTATION PAPER

### Background/Introduction

The Ngadyung program aimed to strengthen local Aboriginal and Torres Strait Islander (ATSI) communities through aquatic recreation and safety focused activities, strategies to increase participation rates in swimming and lifesaving, and establish and support employment pathways for ATSI people. The Ngadyung Program capitalised on the strong community engagement mechanisms established through the ACT Aboriginal Aquatic Recreation Program previously funded through ACT Health since 2006.

The Ngadyung Aquatic Recreation Project aimed to;

- Build stronger links between ATSI community members and groups, RLSSA and their local community aquatic facilities
- provide community members with skills and qualifications to;
  - secure employment as pool lifeguards and/or swimming teachers
  - influence community activities, including those conducted by schools
  - act as advocates for safe participation and enjoyment of aquatic recreation
  - increase use of local aquatic facilities by all community members
- improve wider community knowledge and understanding of water safety, drowning prevention and aquatic recreation
- assist aquatic facilities to provide community friendly facilities that meet the needs of the ATSI community

### Methods

Water and water-based activities are an important part of the Australian culture. The Australian population as a whole is very active in, on, and around the water. Australians swim regularly at beaches and rivers, in public and backyard pools, and enjoy activities such as boating, surfing and snorkelling. This regular exposure to the water raises the issue of water safety as in many places, Australians are around the water, and they can also drown in the water. Drowning is the fourth largest cause of unintentional death in Australia<sup>2</sup>. Water safety is therefore important for all Australians and involves ensuring that people are adequately prepared to use their aquatic environments<sup>2</sup>. The development of foundation aquatic skills is essential for water safety. Australian water safety organisations are responsible for working to ensure that all Australians have opportunities to develop the knowledge and skills that will make them safe in, on and around the water.

Aboriginal and Torres Strait Islander people have been identified by the Australian Water Safety Strategy 2008-2011 as an at-risk group in need of targeted drowning prevention programs<sup>2</sup>. This group has four times the drowning rate of the general Australian population<sup>3</sup>, and as such, the Plan recommends that 'Access and availability of facilities, water safety programs and services be appropriately increased to meet the needs of Aboriginal and Torres Strait Islander communities'<sup>2</sup>.

When swimming pools and water safety programs are used to their greatest efficiency in Aboriginal and Torres Strait Islander communities, the benefits are wider than improvements in water safety alone. There are known skin, ear and eye health benefits for children of regular and sustained swimming pool use<sup>2</sup>. The RLSSA community development model aims to strengthen social infrastructure to support the ACT ATSI community's involvement in local swimming pools. This will lead to other significant outcomes in terms of employment, skills development and social interaction; swimming pool facilities represent a safe and controlled environment for community members of all ages to learn, interact and be involved. Significantly, when incorporated appropriately into broader school and community strategies, swimming pools are an effective tool to encourage students to attend school and to actively engage them in the learning process.

The ACT ATSI Community Project Steering Committee was initially formed in July 2007 and has met bi-monthly for the past two years, and has played a vital role to the current success of the ATSI Aquatic Recreation Program. The committee has identified a number of key areas to help increase participation in aquatic recreational activities by various segments of the local ATSI community.

Royal Life Saving has worked closely with the steering committee and local Indigenous Community groups to provide opportunities which have included; Active Family Fun Days, water safety classes for infants through to Elders, training and education programs and this is now leading into possible employment opportunities.

### Results/Evaluation

The Royal Life Saving Society ACT conducted the Ngadyung Program following the RLSSA Community Development model for the basis of the project. This model has been successfully used to guide community engagement in a number of projects in partnership with targeted communities.

The first and most important element of the Community Development Model is Community Engagement and forming partnerships, this area of the model aims to connect members of the ATSI population with the project activities. Engagement is the process of building strong and enduring relationships between project participants.

Community engagement strategies include;

- Community Project Steering Committees
- Focus groups, questionnaires and community forums
- Local Reference Group

The Community Project Steering Committee was formed in July 2007, and has played a vital role to the current success of the Program. The role of the Community Project Steering Committee is to identify and oversee the implementation of the project strategies.

The ACT Ngadyung Project Steering Committee provided links between individuals, key partners and project activities. Membership of the Community Project Steering Committee consists of;

- local community leaders and representatives
- representatives from local community groups
- representatives from local Government
- representatives from local aquatic recreation facilities

Another key process of community engagement will be the conduct of focus groups, questionnaires and workshops for community members. The purpose of these activities is to ensure that project activities are aligned to community needs.

### Key Results

- Creation of the program branding - Ngadyung (Water)
- Formation of Ngadyung learn to swim program
- Ngadyung Elders Aqua Program
- 12 Participants gaining employment in the Aquatic Industry
- Participation by over 50% of the local ACT ATSI Community.
- Over 100 ATSI community members gained Bronze, first aid and AUSTSWIM Qualifications

### Discussion

Royal Life Saving implements a community participatory development model in communities across Australia and in the ACT. This model uses a range of engagement strategies to ensure that the target population is active in the planning, development, promotion and implementation of targeted strategies and activities. Royal Life Saving act as facilitators and this model has been shown to increase community acceptance and involvement in a range of activities. This approach invests in the community and supports longer term sustainability of project outcomes.

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# DONT DRINK AND DROWN: USING MARKETING AND THE MEDIA IN HEALTH PROMOTION

**KARA SHAW**

*Health Promotion Officer, Royal Life Saving Society – Western Australia*

## ABSTRACT

### Introduction/Background

Young adults are renowned for being a difficult demographic to permeate when it comes to delivering a health promotion message. Developing a message that has a lasting impact on their behaviour and attitudes is a challenge that takes considerable time and resources. Currently Australian communities are concerned with alcohol related problems regularly contributing to health and social problems amongst our young people. The Royal Life Saving Society WA's Don't Drink & Drown campaign aims to address this concern by encouraging 15-29 year olds to consider the dangers of combining alcohol in aquatic environments. Targeting young adults using the form of media is the method we have chosen as most effective to deliver an alcohol and water safety message to this group.

### Methods

Media both audio and visual is a useful tool that can be used to deliver a lasting message to large groups of people in a short period. Young adults respond to media that is innovative, stimulating and uses shock tactics to hold their attention. The first Don't Drink and Drown media campaign was successfully piloted during the 2004-2005 summer period to establish the Don't Drink & Drown message within the WA community. However, in 2009 a new media strategy was necessary in order to ensure the continued success of the campaign.

### Results

Since its inception in 2004 there has been a substantial increase in the awareness of the campaign message amongst the target group. With respect to effectiveness in changing attitudes towards drinking alcohol and participating in water-based activity, the proportion of those rating the campaign as effective to some extent rose from approximately 65% in 2005 to 82% in 2007. Such awareness appears to have resulted in a decrease in alcohol-related drowning deaths amongst young adults since the inception of the Don't Drink & Drown campaign in 2004.

### Discussion

In order to sustain their interest in the Don't Drink & Drown campaign, it is imperative that our message is delivered in new creative ways prior to launching the campaign each season. This year the 2009.2010 summer campaign marks the launch of our brand new Don't Drink & Drown TV advertisement due to be aired in Western Australia November/December.

Other initiatives to accompany this include print media, merchandise, presentations and involvement in youth based events located near the water.

### Conclusion

Since its inception in 2004, the Don't Drink & Drown campaign has successfully used the form of media to deliver an alcohol and water safety message to young adults. Our target group is able to identify the campaign slogan and its associated messages. Consequently, alcohol related drowning deaths have decreased by almost 20% since 2000.

### Acknowledgments

- BHP Billiton.
- 303 Advertising Group.

## PRESENTATION PAPER

### Introduction

From a marketing perspective, young adults are an extremely difficult group to target. While this is true of most social groups, young adults pose a unique set of challenges. Being a diverse demographic, particularly in terms of their mental and social capabilities, young adults do not conform to a standard one-size fits all paradigm; there are many unique sub-cultures within the one group.

Developing a message that has a lasting impact on each sub-culture's behaviour and attitudes is a challenge that takes considerable time and resources and a flexible approach.

This is particularly true when making attempts to change the negative aspects of a group's behaviour. Such an approach usually involves employing media and marketing strategies to effectively engage the target group. Most dictionaries define the term media as methods of communication. Marketing is generally defined as the means by which media is used to satisfy the requirements of a target group, usually in a competitive environment. So how does public health operate in this competitive environment?

And how can media and marketing be used in health promotion to gain maximum impact within the target group? This presentation will seek to address these questions using our youth focused, alcohol and water safety campaign, Don't Drink & Drown as an appropriate case study.

### Don't Drink & Drown as a case study

Statistics reveal that males tend to engage in risk taking behaviours more so than their female counterparts. The practice of consuming alcohol as part of or preceding aquatic activity is also common amongst males. In the past Western Australia has seen a growing trend in alcohol related drowning deaths and injuries within young adults.

Indeed Western Australian hospital data has revealed that during the past ten years there have been over one hundred near drowning related injuries and incidents. While it is not certain how many of these injuries are alcohol related, the fact that 1 in 3 young adult drowning deaths involve alcohol, is a clear indication of the alcohol related behaviours ingrained within this age group.

In response to such statistics the Don't Drink & Drown campaign was first established by the Royal Life Saving Society of Western Australia in 2003. A campaign unique to Western Australia, Don't Drink & Drown was created to target 15-29 year olds with a particular focus on young males. As with most health promotion campaigns, Don't Drink & Drown was implemented within the community according to the Behavioural Change Continuum; Increase awareness, increase knowledge, alter attitudes, encourage a change in behaviour.

Depending on which stage a program is at, the use of marketing and media needs to be tailored to suit the requirements of the target group at that stage. That is, the tools used to promote the campaign at the awareness stage will need to be different to those used further along in the behaviour stage. It is also important to note that during its life, a campaign may move between the different stages at any one time.

For example, while Don't Drink & Drown is currently operating within the attitude phase of the continuum, it is also still pushing to promote awareness of alcohol and water safety. Because of the constantly evolving nature of the target group and the importance of the campaign message, it is predicted that this will never change. It is essential that health promotion practitioners bare this in mind in order to develop as sustainable campaign as possible.

### Methodology

Young adults form a large percentage of the population so it was imperative that the strategies used to create awareness delivered a lasting message to such a sizeable group in a short period. It is well known in this current day and age that young people respond to media that is innovative, stimulating and uses shock tactics to hold their attention. They are a marketer's ideal target group as they have the mental capabilities to process high level information and concepts, though are still in a vulnerable phase of development where they are easily susceptible to their surrounding environment. And because their environment is constantly changing, health promotion practitioners are required to work increasingly harder to compete with such a crowded media environment.

It was decided that the summer of 2004-2005 would be used to pilot a mass media campaign within the target group, simply to establish the Don't Drink & Drown message, specifically in the Perth metropolitan community. The city of Stirling, a Perth locality, was provided with additional exposure in order to compare levels of awareness with the remaining Perth area.

The types of media used included print and outdoor advertising (posters and bus stop signage), and promotions throughout licensed pubs and clubs and youth events, particularly those located near the water. Exposure of the message was also done via a television and radio advertisement aired during times most popular to young adults.

Initial discussions with media and advertising bodies assisted in providing an alternative perspective on what concepts would be realistic and what would work within the target group. From information gained during the pilot study as well as from stakeholders, it was decided that shock tactics would be the best strategy to create the most awareness of our campaign. Fear arousal would ensure that our message is clearly noticed by our target group, and competes well with other strong health promotion messages such as 'Drink Driving', that are already established within the community. It was anticipated that as the campaign evolved, the message would adopt a harm minimisation approach.

In 2008 it was decided that as the current media concepts had been running within the community for the past 4 years, it was necessary to reshape the image of the campaign. Print advertising, merchandise and a new television campaign were discussed in preparation for the 2009-2010 summer season.

### Results

Results from the 2004-2005 pilot and 2007 evaluation studies revealed the campaign has been successful in creating awareness and an attitude shift amongst young people in relation to alcohol and water safety. The following table demonstrates this outcome:

Variable	2005 (~%)	2007 (~%)
Able to recall (unprompted) seeing the TV advertisement	50	65
Able to name alcohol as a major contributing factor to drowning deaths in 15-29 year olds	50	75
Have seen at least one of the Don't Drink & Drown branded resources	55	80
Is the campaign effective to some extent in bringing the campaign to the public's attention?	75	90

**Table 1.** 2005 and 2007 comparison of campaign evaluation outcomes

### Discussion

There have been a number of key findings learnt during the duration of the Don't Drink & Drown campaign. The Royal Life Saving Society has found that there are a number of strategies that need to be employed in order to achieve maximum impact in a health promotion campaign. These are as follows:

1. In today's market, young people's senses are over-stimulated so they are often desensitized when it comes to responding to information that is relevant to them. Our focus group testing has shown that shock tactics and fear arousal work best when trying to get and maintain their attention.
2. Young adults are more likely to absorb a message if they can easily see how it can, or does, directly affect them. This is why the above point works well.
3. Form lasting professional relationships with those in the media. This includes print, audio, and visual media bodies. Forming networks with other organisations is also beneficial as it allows for sharing of ideas and resources.
4. Know your budget and utilise it to your advantage. This is where dollar-for-dollar advertising works well as it ensures your campaign achieves maximum impact.
5. If using multiple media types (television and radio etc), ensure the different messages clearly link with each other. Attempts to create a successful campaign will be futile if the target group cannot understand your campaign's direction.

### Conclusion

Since its inception in 2004, the Don't Drink & Drown campaign has successfully used the form of media to deliver and alcohol and water safety message to young adults. Our target group is able to identify the campaign and its associated messages.

The Royal Life Saving Society of Western Australia has chosen to use multiple forms of media, including print, radio, television, and promotional events in order to achieve maximum campaign impact within the target group. Ensuring that the Don't Drink & Drown campaign continues to evolve and remain relevant to young adults will ensure the continued success of the campaign.

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PRESENTATIONS:

# LEARN TO SWIM

## MODERNISING SWIMMING AND WATER SAFETY TEACHER ACCREDITATION

DAVID SPEECHLEY

Manager, Swim ED - Education by ASCTA (Australian Swimming Coaches and Teachers Association)

### ABSTRACT

#### Background/Introduction

In 2005 ASCTA reviewed the swimming and water safety teaching industry needs throughout Australia and the potential options for delivery of training and best practise around the world.

Subsequently, ASCTA has developed an integrated pathway of complimentary swimming and water safety teacher and swimming coach training courses in specific areas related to swimming and water safety using leading edge IT technologies, blended training techniques and streamlined processes.

#### Methods

The first course (Swim Australia Teacher) was released in September 2008. In 14 months over 2500 people have undertaken training related to water safety teaching.

A second course (Swim Australia Teacher of Babies and Toddlers) was released October 2009 with a third course (Swim Australia Teacher of Adolescents and Adults) being released in May 2010 with another specialist course in July and a fifth specialist teaching course in October 2010.

The process to get to this end stage was:

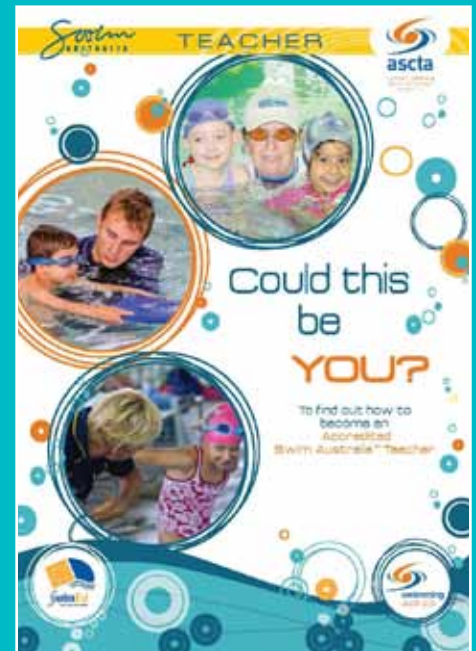
- Research of available resources
- Development of curriculum
- Peer review
- Market Research
- Market trial
- Constant evaluation
- Quality assurance
- Development of IT
- Ongoing renewal of resources.

#### Results/Evaluation

- Statistical feedback from Students on a range of presentation areas.
- Empirical data on Student numbers, regional breakdowns.
- Industry feedback and testimonials.
- Overseas experiences.

#### Discussion

- How the ASCTA experience could translate to delivery of other water safety courses.
- The difficulties and benefits of implementing IT based training.
- The unexpected benefits.
- Future trends.
- Niche marketing.



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### Conclusion

- The future of this type of training delivery. Targeted groups require targeted delivery.
- ASCTA plans for other courses.
- Recommendations to others delivering training.

### Acknowledgements

- ASCTA
- Swim Australia
- SwimEd
- Swimming Australia

Additional Information CD Course sample will be provided FOC.

## PRESENTATION PAPER

In 2005 ASCTA reviewed the swimming and water safety teaching industry needs throughout Australia and the potential options for delivery of training and best practise around the world.

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The process to get to this end stage was:

- Research of available resources
- Development of curriculum
- Peer review
- Market Research
- Market trial
- Constant evaluation
- Quality assurance
- Development of IT
- Ongoing renewal of resources.

### Results/Evaluation

- Statistical feedback from Students on a range of presentation areas.
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### Discussion

- How the ASCTA experience could translate to delivery of other water safety courses.
- The difficulties and benefits of implementing IT based training.
- The unexpected benefits.
- Future trends.
- Niche marketing.

### Conclusion

- The future of this type of training delivery. Targeted groups require targeted delivery.
- ASCTA plans for other courses.
- Recommendations to others delivering training.

Caution needs to be exercised that the very latest E-learning tools such as online learning with video streaming are capable of being delivered to the vast majority of your client group. If internet speed or access is a problem, computer access or the computer literacy levels of Students is low then the level of technology utilised needs to be wound back.

Additional Information CD Course sample will be provided FOC.

# SWIMSAFER: THE SWIM AUSTRALIA WAY

**ROSS GAGE**

*Chief Executive Officer, ASCTA and Swim Australia*

## ABSTRACT

### Background/Introduction

Swim Australia acknowledges the horrific drowning and near-drowning statistics in Australia - particularly in the under 5 year old group. Member Swim Schools have been identified as an ideal vehicle to spread targeted water safety messages to their clientele, the emphasis on the caregivers of under 5s.

### Methods

To package the water safety messages in 'Swim School Friendly' formats, the SwimSAFER Special Interest Group was formed. The SIG is driven by the SwimSAFER Leadership Team. The Team drew on the likes of the RLSSA and SLSA websites and the Australian Government's Living With Water DVD.

### Results/Evaluation

Interest in the SwimSAFER concept from Member Swim Schools has surpassed any previous project undertaken by Swim Australia. Members are engaged, readily seeing the benefits for themselves and their clientele.

### Discussion

Being able to harness the enormous passion and talent in Member Swim Schools, together with the excellent water safety messages available in Australia, has ensured the SwimSAFER concept will grow and deliver further desirable outcomes for both the Swim Schools and the community. Corporate support will further enhance SwimSAFER's offerings.

### Conclusion

Swim Australia will grow SwimSAFER into its premier service. As a consequence, Member Swim Schools will achieve a better balance between teaching swimming and water safety skills and disseminating water safety messages.

### Acknowledgements

Swim Australia's SwimSAFER Leadership Team: Siria Thomas, Tracey Ayton, Dave DuBois and Cameron Speechley.



## PRESENTATION PAPER

Swim Australia is the Learn to Swim and Water Safety Division of the Australian Swimming Coaches and Teachers Association (ASCTA). Through ASCTA's affiliations, Swim Australia is linked with the Australian Water Safety Council, RLSSA's Guidelines for Safe Pool Operations Committee, the International Federation of Swimming Teachers Associations and Swimming Australia (the sport). Swim Australia was an integral member of the Federal Government's Reference Committee for the development of the Kids Alive Living With Water DVD.

Swim Australia registers Swim Schools and then works with these 'members' to enhance the learn to swim and water safety experience. This includes a wide range of products and services. Additionally, Swim Australia promotes the benefits of being able to swim and having water safety skills.

Swim Australia has over 570 registered Swim Schools – which, over the course of a year, deal with over 400,000 families and deliver over 15 million lessons ... many of these to 5 and under.

Swim Australia concurs with the Australian Water Safety Council in the value of raising awareness and education as key drowning prevention measures.

At the 2007 Swim Australia Conference, noted international learn to swim expert Dave DuBois, delivered a paper entitled "Safer Education". The presentation highlighted that Swim Schools were ideally placed, and indeed had an obligation to, reinforce desirable water safety practices. This included the physical environment; how they promoted themselves and the information provided to customers; and the content of lessons.

Integral to Dave DuBois's presentation was also the concept of 'layers of protection' – a common theme in reputable water safety messages such as 'Kids Alive' and 'Keep Watch'. Implicit in this is that swimming and water safety skills alone are NO safeguard against drowning. Parents should not become complacent.

The presentation was met with unprecedented interest and follow-up. The Swim Schools wanted more and Swim Australia's help in delivering 'Safer Education' in a highly professional manner. Siria Thomas, at that time with McKeon Swimming, led the charge.

In keeping with Swim Australia's other brands; e.g., SwimAHEAD, SwimPRO, SwimTOUR, SwimECO; the term SwimSAFER was enlisted to become the program name. The SwimSAFER program would help Swim Schools 'live the water safety message'.

To package the water safety messages in 'Swim School Friendly' formats, the SwimSAFER Special Interest Group was formed. This SIG is driven by the SwimSAFER Leadership Team of Siria Thomas (Convenor), Tracey Ayton, Dave DuBois and Cameron Speechley; with the Swim Australia CEO as ex-officio.

Interest in the SwimSAFER program from member Swim Schools has surpassed any previous project undertaken by Swim Australia. Members are engaged, readily seeing the benefits for themselves and their clientele.

Being able to harness the enormous passion and talent in Member Swim Schools, together with the excellent water safety messages available in Australia, has ensured the SwimSAFER program will grow and deliver further desirable outcomes for both the Swim Schools and the community. Government and corporate support will further enhance SwimSAFER's offerings.

Swim Australia will grow SwimSAFER into its premier service. As a consequence, member Swim Schools will achieve a better balance between teaching swimming and water safety skills and disseminating water safety messages. Here is to SAFER children!

# SWIMSAFER:

## SWIM SCHOOLS LIVING THE WATER SAFETY MESSAGE

**SIRIA THOMAS**

*SwimSAFER Leadership Team Convenor, Swim Australia*

### ABSTRACT

Swim Australia launched its SwimSAFER program in May 2009 at the ASCTA Convention. Immediately, it was evident that SwimSAFER would be an enormous hit with the Swim Schools.

The program seeks to package existing water safety messages in such a way that Swim Schools can readily use and disseminate them. Central to this process is the concept of 'Layers of Protection' - the first layer being Supervision, then Barriers, then Swimming and Water Safety Skills and finally an Emergency Action Plan.

The SwimSAFER Leadership Team has already been instrumental in driving the development of a range of collateral for Swim Australia to provide to its Member Swim Schools. These include Pool Water lanyards, a SwimSAFER booklet for caregivers of young children and a series of SwimSAFER posters. This presentation will include how the collateral was developed and evaluated for continuous improvement.

Additionally, other planned collateral will be discussed.

In short, the practical ways in which Swim Australia is (and will be) assisting its Member Swim Schools to live and spread the vital water safety messages will be shared ... so Australia's children can swim SAFER.

### Acknowledgements

Ross Gage, CEO, Swim Australia

SwimSAFER Leadership Team: Tracey Ayton, Dave DuBois and Cameron Speechley

### PRESENTATION PAPER

Swim Australia launched its SwimSAFER program in May 2009 at the ASCTA Convention. Immediately, it was evident that SwimSAFER would be an enormous hit with the Swim Schools.

We have developed SwimSAFER primarily to assist swim schools to 'live the water safety message'. Swim schools around Australia are uniquely placed to positively influence the swimming and water safety habits of their customers; the parents, caregivers and children. SwimSAFER features a 'layers of protection' concept that encompasses the common themes in water safety messages used by various authorities:

1. Supervision
2. Barriers
3. Swimming and Water Safety Skills
4. Emergency Action Plan

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Our goal is to educate parents and carers that no one of these layers will protect their children from drowning; it is only human for adults to sometimes lapse in their supervision of children in the home or while out and about, children can and do find their ways over fences, and children who have had swimming lessons, have still drowned. SwimSAFER promotes that having in place as many of these layers as possible will provide the greatest protection from drowning – if one layer fails, another behind it may save their life.

The program seeks to package these messages in such a way that Swim Schools can readily use and disseminate them. The SwimSAFER Leadership Team has already been instrumental in driving the development of a range of collateral for Swim Australia to provide to its Member Swim Schools. These include:

- **SwimSAFER Pool Water Lanyards** - which are designed to be worn by a designated adult supervisor 'Pool Watcher' at pool side gatherings. If the designated supervisor must leave the area or must attend another duty, the lanyard must be passed to another adult supervisor who is then responsible for constant supervision of the children.
- **SwimSAFER Booklet for Parents of Young Children** - released in February this year, our unique booklet explains each of the layers of protection and outlines how parents can implement them. The layers are also very effectively illustrated with true life stories of families who have experienced drowning or near drowning accidents, which re-enforce how easily these accidents happen and help to remove the common misconception that "that won't happen to me". Swim schools are using these booklets for parent/carer education and distributing them to their clients, to increase awareness and education on drowning prevention.
- **SwimSAFER posters** – a series of posters for swim schools to display at their venues, each one highlighting one of the layers of protection.
- **SwimSAFER online** – a section of Swim Australia's web site is dedicated to water safety and the promotion of the layers – we encourage member swim schools to provide links in their websites to SwimSAFER online as part of their parent education campaign.
- **SwimSAFER weeks** – SwimSAFER provides encouragement and guidance for swim schools to hold SwimSAFER Weeks (currently many swim schools have a 'water safety week' – up to 4 times per year; i.e., one per school term). Promotional assistance will be provided e.g. SwimSAFER Week coming Poster, in addition to suitable handouts, giveaways and activities etc. To date, the likes of Carlisle Swimming (7 centres), Y Cook and Phillip, McKeons Swim School (2 centres) and Aquatic Achievers (4 centres) have conducted SwimSAFER Weeks.
- **SwimSAFER professional development** - integration of the SwimSAFER concept into professional development through:

- SwimSAFER presentation in each annual Convention, and
- An annual workshop to develop and enhance curriculum for the teaching of water safety skills.

SwimSAFER's Leadership team and special interest group continue to work together to devise new ideas and concepts, and we are currently prioritising and strategising future projects that SwimSAFER envisages encompassing:

- Front fence/gate sign: "Caution – Pool on Property"
- "Stay with me" fluoro arm bands for young children
- Recognising Swim Schools embracing the SwimSAFER program, via the likes of:
  - SwimSAFER Swim School of the Year
  - SwimSAFER Award of Excellence – available to any Swim School that fully participates in the program and at a very high standard. This would come with significant marketing value to the Swim School.
- SwimSAFER Hero. When it is brought to the attention of the Swim School that one of their students has used their skills to save themselves; they would be awarded a SwimSAFER Hero certificate. The Swim School would be assisted in obtaining local media for this.
- Promoting the relevant messages to the broader community, via the likes of:
  - a Community Service Announcement for Television, with a national media launch for same;
  - a feature in each issue of Swimming Matters (including e-issues);
  - articles in national parent magazines;
  - assistance to Swim Schools to send staff to remote areas to work with communities

Through SwimSAFER, Swim Australia is assisting its member swim schools to live and spread the vital water safety messages. Our goal is to reduce childhood drowning in this country and to help Australia's children to Swim SAFER.



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# STUDY INTO THE SWIMMING ABILITIES OF ACT PRIMARY SCHOOL STUDENTS

**SEAN HODGES**

*Executive Officer, Royal Life Saving Society  
– Australian Capital Territory*

**DR RICHARD FRANKLIN PhD**

*National Manager Research and Health Promotion,  
Royal Life Saving Society – Australia*

## ABSTRACT

### Background/Introduction

In 2008 Royal Life Saving ACT conducted the ACT Primary Schools Swim and Survive program involving nearly 3000 students from across 24 ACT schools. This program provided Royal Life Saving with an opportunity to analyse the swimming abilities of ACT students and compare these results to the National Swimming and Water Safety Framework.

### Methods

Data was collected during the 2008/09 ACT Primary Schools Swim and Survive Program. This information was used to identify, for current ACT public primary school students participants of the program, swimming and water safety skills and abilities. The information was entered into a Microsoft Access Database and analysed in SPSS version 15.0.

### Results/Evaluation

The research identified that the current level of swimming and water safety skills of ACT public primary school students is well below the national benchmark set in the Australian Water Safety Strategy 2008-2011. The research also showed a clear gap in swimming abilities between ACT private school students and ACT public school students, with the latter achieving standards significantly lower.

### Discussion

To help the ACT Government is being asked to increase its funding of swimming and water safety programs for ACT children to help improve the swimming abilities of ACT Children.

### Conclusion

Key Findings:

- Only 28% of students in years 3 - 6 achieved the minimum benchmark.
- The average participation rate for public schools was 34% compared to private schools of 93%.
- Private school students achieve the minimum national benchmarks three times more than public school students.
- The poor outcomes are particularly evident in schools within the lower socio economic areas of Canberra.

## PRESENTATION PAPER

### Background/Introduction

In 2008 Royal Life Saving ACT conducted the ACT Primary Schools Swim and Survive program involving nearly 3000 students from across 24 ACT schools. This program provided Royal Life Saving with an opportunity to analyse the swimming abilities of ACT students and compare these results to the National Swimming and Water Safety Framework. Royal Life Saving has long held a concern that the swimming abilities of ACT School students are below the national benchmark recommendations; these concerns have been reinforced through industry feedback and observations from school swimming carnivals and swimming lessons.

Research conducted by Kidsafe in 2006, funded by Sport & Recreation ACT and supported by the ACT Water Safety Working Group, confirmed an alarming decrease in the level of swimming competence and confidence of children leaving primary school in the ACT. 16% of schools surveyed in the research had ceased all learn-to-swim activities in the previous 12 months. The poor outcomes are particularly evident in schools within the lower socio economic areas of Canberra. The Research showed that of the 48 Schools Surveyed, 9 schools had ceased swimming lessons all together and many other schools did not provide lessons for all primary school years <sup>(1)</sup>.

Water Safety Education has been identified as a major issue within the Australian Water Safety Strategy 2008-2011 <sup>(1)</sup> as it provides the knowledge and skill base from which all other water safety and aquatic recreation flows. The Australian Water Safety Strategy points to a need to benchmark swimming and water safety skills in children across Australia and to continue to build the culture of water safety that commences in schools.

The National Swimming and Water Safety Framework has been developed to facilitate the belief that every individual in Australia should be provided with a balanced water safety, personal survival and swimming education.

The framework provides parents, aquatic educators, educational institutions and governments with a basis for developing, providing or selecting an appropriate swimming and water safety program. The framework has been based on the success of Royal Life Saving's Swim and Survive program and has been developed in consultation with the aquatic industry. The National Water Safety Plan 2004-2007 and the Australian Water Safety Strategy 2009-11 both recommended that water safety competencies and success targets be set for all Australian Children – established at appropriate age/development levels. In particular 100% of Primary school children achieve a minimum demonstration of competencies equivalent to Swim and Survive Level 4.

### Methods

Data was collected during the 2008/09 ACT Primary Schools Swim and Survive Program. This information was used to identify, for current ACT public primary school students participants of the program, swimming and water safety skills and abilities. The information was entered into a Microsoft Access Database and analysed in SPSS version 15.0.

### Results/Evaluation

The research identified that the current level of swimming and water safety skills of ACT public primary school students is well below the national benchmark set in the Australian Water Safety Strategy 2008-2011. The research also showed a clear gap in swimming abilities between ACT private school students and ACT public school students, with the latter achieving standards significantly lower.

### Discussion

To help the ACT Government is being asked to increase its funding of swimming and water safety programs for ACT children to help improve the swimming abilities of ACT Children. The aim is to develop and implement a comprehensive swimming and water safety program that prevents drowning and increases physical activity among all ACT Public Primary School Years 3 – 5 Students.

### Key Goals

1. Achieve 100% participation rate of all ACT Public Primary Schools by 2011.
2. Achieve 80% participation by ACT Public School years 3-5 Students by 2011.
3. Achieve 75% of year 5 primary school students to successfully completing the Minister's Swim and Survive Certificate (Swim and Survive level 4 + Completion of Water Smart) by 2013.
4. Implement a research plan that tracks the progress of ACT Primary School Students swimming abilities and identifies individuals and communities at risk.

### Conclusion

Key Findings:

- Only 28% of students in years 3 – 6 achieved the minimum benchmark
- The average participation rate for public schools was 34% compared to private schools of 93%
- Private school students achieve the minimum national benchmarks three times more than public school students.
- The poor outcomes are particularly evident in schools within the lower socio economic areas of Canberra.

### Acknowledgements

ACT Department of Education

### References

1. Council, Australian Water Safety. Australian Water Safety Strategy 2008-2011. Sydney : Australian Water Safety Council, 2008.

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# THE STATE OF SCHOOL POOLS AND ATTITUDES TOWARDS LEARN TO SWIM

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## ABSTRACT / PRESENTATION PAPER

A recent research report by the New Zealand Council for Educational Research highlights the growing issue of school pools in New Zealand. The issues surrounding closures, maintenance and development are examined along with the attitudes of schools towards teaching children to swim, an area not included in the NZ school curriculum.

The survey, which had a 99% completion rate from 2500 schools, also puts into perspective the rise in awareness of the importance of swim and survival skills with the lack of supporting central government policy to actually get children in the water.

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...our love of aquatic recreational pursuits coupled with our love of a few cold beers leads to an increased risk of drowning and a decreased ability to respond to the associated hazards.

#### PRESENTATIONS:

## HIGH RISK ACTIVITIES

### SWIM SAFE. SWIM SOBER.

### A STUDY EXAMINING DROWNING IN NSW AND THE INFLUENCE OF ALCOHOL

#### CAITLIN VASICA

*Health Promotion Manager, Royal Life Saving Society – New South Wales*

#### DR RICHARD FRANKLIN PhD

*National Manager Research and Health Promotion, Royal Life Saving Society – Australia*

#### ERIN SIMMONDS

*Royal Life Saving Society – New South Wales*

### ABSTRACT

#### Background/Introduction

Australia is a nation of water lovers - many residents and visitors to NSW live near or visit our beautiful coastline, and for those that don't, trips to the local pool or river are a favourite pastime. This love of aquatic recreational pursuits coupled with our love of a few cold beers leads to an increased risk of drowning and a decreased ability to respond to the associated hazards.

#### Methods

Information for this report has been collected by Royal Life Saving NSW using the National Coroners Information System (NCIS) and Coronial offices for the period 1 July 2002 to 30 June 2007. Information provided includes only unintentional drowning deaths.

Information collected included activity, location, age, sex, date of death, postcode of residence, postcode of the incident and alcohol involvement where available.

#### Results/Evaluation

Just under one-third (29%) of all drowning deaths involved alcohol. Of these 149 people, 81.2% were males. The three most common locations where drowning deaths occurred in NSW were the ocean (21.7%), beaches (20.5%) and rivers (18.8%). The three most common activities being undertaken immediately prior to drowning were swimming (27.3%), falling-in (18.6%) and using watercraft (18.4%).

The 15-29 years age group had the highest number (40), rate (0.58 per 100,000) and proportion (40.8%) of drowning deaths involving alcohol.

#### Discussion

In this study the 15-29 year age group had the highest number, rate and proportion of drowning deaths involving alcohol. This result is not unexpected as during this age young adults begin to assume independence. In doing so they are exposed to greater choices and greater opportunities and for some, greater risk. The need for acceptance by peers and potential exposure to alcohol therefore increases the risk of drowning.

The 15-29 years age group is an 'at-risk priority group' and has been identified for immediate action in the Australian Water Safety Strategy 2008-2011, National Alcohol Strategy 2006-2009, and National Injury Prevention and Safety Promotion Plan: 2004- 2014. It is an imperative that appropriate programs be developed and implemented targeting this demographic as the current situation is unacceptable.

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In particular, as males are at an increased risk of drowning and their resultant risky behaviour increases this risk when drinking alcohol specific strategies should be developed for males.

### Conclusion

Further research is required, including:

- Investigation of interventions which target men and the consumption of alcohol in proximity to water.
- Information about why people are drinking.
- When and cultural influences on drinking alcohol near aquatic locations.

This report highlights the need for a coordinated and integrated approach to reducing the burden of alcohol related drowning deaths.

### Acknowledgements

Royal Life Saving NSW acknowledges the following organisations for their assistance:

- NSW Government
- The National Coroners Information System
- State Coroners
- Reame Media / Media Monitors
- The Australian Bureau of Statistics
- Australian Water Safety Council

## PRESENTATION PAPER

### Background/Introduction

Australia is a nation of water lovers – many residents and visitors to NSW live near or visit our beautiful coastline, and for those that don't, trips to the local pool or river are a favourite pastime. This love of aquatic recreational pursuits coupled with our love of a few cold beers leads to an increased risk of drowning and a decreased ability to respond to the associated hazards.

Drinking alcohol is intrinsic to Australian culture. It is seen as both normal, sociable and expected and its widespread use appeals to people of all ages and in all walks of life. Drinking is completely integrated into Australian culture so people expect to drink in a wide range of situations and on a wide variety of occasions.

However, the use of alcohol prior to partaking in aquatic activity has been shown to significantly increase the risk of drowning due to a range of physical and behavioural changes that occur when alcohol has been consumed. Recognition of the role of alcohol as a risk factor for drowning, near drowning and other types of injury associated with water-related activities is increasing.

Previous research on the contribution of alcohol in drowning deaths has suggested that between 30-50% of adolescent drowning deaths and between 25-50% of adult drowning deaths involve alcohol. It is for this reason that both the National Alcohol Strategy 2006-2009 and the Australian Water Safety Strategy 2008-2011 have highlighted the need to reduce alcohol related drowning, particularly amongst males aged 16-35 years.

Programs should take into account findings of research conducted on alcohol and recreational activity to effectively plan, initiate, develop and evaluate injury prevention and health promotion strategies and campaigns. However, there has been little analysis of the role of alcohol in drowning in NSW in recent years.

### Methods

Information for this report has been collected by Royal Life Saving NSW using the National Coroners Information System (NCIS) and Coronial offices for the period 1 July 2002 to 30 June 2007. Information provided includes only unintentional drowning deaths and as such does not include suicide, homicide, natural death (such as cardiac arrest), shark attack, or hypothermia where known.

Information collected included activity, location, age, sex, date of death, postcode of residence, postcode of the incident and alcohol involvement where available. Requests were sent to the Coroner's Office and local case courts to collect further information not available through the NCIS for 277 cases.

Population statistics by age and sex within New South Wales were collected from the ABS population data.

### LIMITATIONS

#### Open National Coroners Information System (NCIS) cases

As a number of cases are still being investigated (open) by the coroner, there is limited information accessible from the NCIS. This increases the number of cases with unknown information on the circumstances surrounding the drowning death. Of the 517 deaths over the study period 27.5% were open (range 19.8% in 2002-03 to 31.1% in 2006-07).

#### Incomplete National Coroners Information System Documents

Within closed cases, there is limited access to some coronial documents particularly toxicology reports and therefore the involvement of alcohol in the drowning death is difficult to ascertain.

#### Blood Alcohol Levels

High blood alcohol readings may not necessarily be due to the consumption of alcohol as blood alcohol levels can also rise and fall after death due to endogenous alcohol production. It is therefore difficult to estimate this amount when pre- morbid alcohol consumption has also taken place. As a result, a BAC of  $\geq 0.10\text{g}/100\text{mL}$  has been used in previous studies to determine the contribution of alcohol to drowning deaths; however this theory was based on research undertaken in the United States in the early 1980s. Therefore until more research is conducted in this field, Royal Life Saving has included all cases of drowning death where any trace of alcohol was found in toxicological reports. Consequently, BAC's in this report range from as low as  $0.007\text{g}/100\text{ml}$  to as high as  $0.379\text{g}/100\text{ml}$ .

#### Results/Evaluation

There were 517 people who drowned in NSW over the five year period 1 July 2002 to 30 June 2007, of these, 401 (77.6%) were males.

This was on average 103 deaths per annum (range 99 in 2004-2005 to 106 in 2002-2003). The crude rate per 100,000 per annum ranged from 1.48 in 2004- 2005 to 1.61 in 2002-2003. Just under one-third (29%) of all drowning deaths involved alcohol. Of these 149 people, 81.2% were males.

The 15-29 years age group had the highest number (40), rate (0.58 per 100,000) and proportion (40.8%) of drowning deaths involving alcohol.

The average age of people who drowned due to alcohol involvement was 40.3 years (median = 42 years). Of the seven drowning deaths of people under the age of 15 years, four were under 10 years of age and were in cars being driven by a person under the influence of alcohol.

The three most common locations where drowning deaths occurred in NSW were the ocean (21.7%), beaches (20.5%) and rivers (18.8%). The locations with the highest proportion of alcohol related deaths were rivers (55.7%), creeks (52.2%) and lakes (44.8%).

The three most common activities being undertaken immediately prior to drowning were swimming (27.3%), falling-in (18.6%) and using watercraft (18.4%). The activities with the highest proportion of alcohol related deaths were driving (54.3%), rescue (50.0%) and bathing (38.7%).

One third (34.2%) of people who drowned with alcohol in their system had a Blood Alcohol Content (BAC) of less than 0.05g/100ml, and at the other end of the scale, over half (50.3%) had a BAC over 0.10g/100ml.

There were also seven cases where alcohol was a factor but the BAC was unknown; either because they were a passenger in a car being driven by an intoxicated person or no BAC was collected but it was documented that alcohol had been consumed prior to drowning.

Saturday (20.8%), Sunday (18.8%) and Friday (18.1%) were the most common days of the week when alcohol related drowning deaths occurred. Summer (30.2%) had the highest number of deaths followed by Autumn (26.2%), Spring (23.5%) and Winter (20.1%).

### Case Study Males 15-29 years

There were 40 drowning deaths involving alcohol in the 15-29 years age group of which all, bar one, were male. Just over a third (35.5%) of the males aged 15- 29 years had a BAC equal to or over 0.1g / 100ml.

A third (33.3%) of all alcohol related drowning deaths of males 15-29 years occurred during the summer, with approximately a quarter occurring in spring (28.2%) and autumn (23.1%). The most common day of the week was Sunday (25.6%).

The three most common locations were rivers (33.3%), beaches (25.6%) and the ocean (23.1%), accounting for 82.1% of all drowning deaths involving alcohol of males aged 15-19 years. The three most common activities being undertaken immediately prior to drowning were swimming (41.0%), using watercraft (17.9%) and falling-in (15.4%) accounting for three-quarters (74.4%) of all drowning deaths involving alcohol of males 15-19 years.

### Discussion

Just as there are known health risks associated with excessive consumption of alcohol, so too are there risks associated with consuming alcohol in an aquatic recreational context. Alcohol has been found to lead to an increased risk of drowning and aquatic injury, and the effects of alcohol are magnified when in, on, or around the water.

In this study the 15-29 year age group had the highest number, rate and proportion of drowning deaths involving alcohol. This result is not unexpected as during this age young adults begin to assume independence. In doing so they are exposed to greater choices and greater opportunities and for some, greater risk. The need for acceptance by peers and potential exposure to alcohol therefore increases the risk of drowning.

It is an imperative that appropriate programs be developed and implemented targeting this demographic as the current situation is unacceptable. In particular, as males are at an increased risk of drowning and their resultant risky behaviour increases this risk when drinking alcohol, specific strategies should be developed for males.

More than half of all drowning deaths that occur in rivers involve alcohol. Locations with the highest proportion of alcohol related drowning deaths were inland waterways such as rivers, lakes, and creeks. Many people assume these environments are safe places to swim, however even seemingly tranquil waterways can present dangerous hazards, particularly when coupled with alcohol.

It is important to highlight that more than a third of people who drowned with alcohol in their system had a BAC of less than 0.05g/100ml i.e. not all people were highly intoxicated prior to drowning. Thus even small amounts of alcohol have both physical and behavioural effects on a person and may increase the risk of drowning.

Further research is required in Australia to provide more specific evidence on the relationship between the BAC and the extent of the increased risk of drowning.

This report highlights the need for a coordinated and integrated approach to reducing the burden of alcohol related drowning deaths.

### Acknowledgements

- NSW Government
- The National Coroners Information System
- State Coroners
- Rehome Media / Media Monitors
- The Australian Bureau of Statistics
- Australian Water Safety Council

# PERCEPTIONS AND BEHAVIOURS OF ROCK FISHERS IN AUSTRALIA:

## IMPLICATIONS FOR A NATIONAL CAMPAIGN

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## ABSTRACT

### Background/Introduction

Rock fishing is considered one of the most dangerous pastimes in Australia. In New South Wales (NSW) alone there are on average 8 rock fishing deaths per year. Therefore the safety of those participating in rock fishing in Australia is of increasing concern. The aims of this study were to assess demographic information, behaviours and knowledge of rock fishing safety in coastal NSW and Victoria.

### Methods

A coastal safety survey was undertaken along nominated 'high risk' areas for rock fishing incidents in NSW and Victoria. The survey was designed to assess participants; demographic information, current behavioural patterns and knowledge of rock fishing safety in coastal areas. Surveys were available in multiple languages and participants were assisted, if needed, in their completion.

### Results/Evaluation

Interviews were conducted with 79 individuals with a significantly greater proportion of responses from NSW, (n=62). Observations of VIC fishers not responding to the survey (n=45) were also utilised to assist with the demographic profile, providing a total VIC sample for this section of n=62. Whilst there were some differences found in the demographic profile of rock fishers in NSW and Victoria (age and ethnicity), behavioural patterns and knowledge of rock fishing safety were similar.

Of concern was that while 18% of both Victorian and NSW rock fishers knew of someone who had been swept off rocks over 80% never or only sometimes wore a lifejacket whilst rock fishing.

### Discussion

The results demonstrate that apart from some demographic differences there appears to be little difference in the behaviours and knowledge of rock fishing safety between rock fishers in NSW and Victoria.

### Conclusion

This study provides valuable information to assist the strategic direction of a National rock fishing safety campaign. Ongoing research assessing change in knowledge following 12 months of a rock fishing safety campaign will help determine the impact of safety messages.

### Acknowledgements

Thanks to the Australian National Sportfishing Association volunteers for conducting surveys in NSW.

## PRESENTATION PAPER

### Background/Introduction

The aims and objectives of the project were:

- To determine the demographics of rock fishers in New South Wales (NSW) and Victoria.
- To determine the typical behavioural patterns and knowledge of rock fishing safety of rock fishers in NSW and Victoria.
- To apply the demographic, behavioural and knowledge profiles of rock fishers to assist in the development of a National rock fishing education and awareness campaign.

The research project and rock fishing campaign was developed in response to the number of rock fishing deaths in Australia. In NSW alone there are on average 8 rock fishing deaths per year. In Victoria, an increase in rock fishing fatalities in 2005/2006, particularly in a concentrated area of Victoria's coastline, led to a call to action from a Victorian Coroner and a proposal including a targeted education and awareness campaign.

Both State and National projects involved extensive consultation with key stakeholders prior to survey development and campaign implementation.

### Methods

A coastal safety survey was undertaken along nominated 'high risk' areas for rock fishing incidents in NSW and Victoria. The survey was designed to assess participants; demographic information, current behavioural patterns and knowledge of rock fishing safety in coastal areas.

Surveys were undertaken during the designated low tide times and consisted of surveys completed by visitors to key rock fishing locations and observational notes taken by nominated interviewers. Surveys were available in multiple languages and participants were assisted, if needed, in their completion. When surveys were refused, researchers undertook observations on the clothing, equipment carried and the attitude and behaviours of the visitors.

Surveys were conducted from 2005-2010.

## Results/Evaluation

Interviews were conducted with 79 individuals with a significantly greater proportion of responses from NSW, (n=62). Observations of VIC fishers not responding to the survey (n=45) were also utilised to assist with the demographic profile, providing a total VIC sample for this section of n=62.

Whilst there were some differences found in the demographic profile of rock fishers in NSW and Victoria (age and ethnicity), behavioural patterns and knowledge of rock fishing safety were similar.

Of concern was that while 18% of both Victorian and NSW rock fishers knew of someone who had been swept off rocks over 80% never or only sometimes wore a lifejacket whilst rock fishing.

Detailed results will be available at the conference.

## Discussion

The results demonstrate that apart from some demographic differences there appears to be little difference in the behaviours and knowledge of rock fishing safety between rock fishers in NSW and Victoria.

## Conclusion

This study provides valuable information to assist the strategic direction of a National rock fishing safety campaign. Ongoing research assessing change in knowledge following 12 months of a rock fishing safety campaign will help determine the impact of safety messages.

## Acknowledgements

We would like to acknowledge the support of the key agencies involved in the project:

- Australian National Sportfishing Association (National and Victorian Branches)
- VRFish
- Fisheries Victoria
- Victoria Police (Water Police and Search & Rescue squads)
- Parks Victoria
- Marine Safety Victoria
- LOTE Marketing
- Emergency Services Policy and Support Unit, Department of Justice
- In addition we wish to thank Lauren Nimmo from Royal Life Saving Society - Western Australia and Damian Morgan from Monash University for their assistance with development of the rock fishing questionnaire.

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# DON'T PUT YOUR LIFE ON THE LINE:

## A STRATEGY TO REDUCE ROCK FISHING FATALITIES

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## ABSTRACT

The 2009 National Coastal Safety Report produced by Surf Life Saving Australia found that of the 94 people who died by drowning around the coast during the twelve months to 30 June 2009, 12 (13%) were fishing on rocks or beaches at the time. Rock fishing fatalities have continued and refuse to subside regardless of the intervention measures tried over the past few decades. Each year they represent approximately 10% of coastal drowning fatalities which over time amounts to a significant number of tragedies. In NSW alone for the period 1969 to 2000, approximately 218 persons lost their lives whilst rock fishing. And in a startling indicator of how poorly-prepared many rock fishers are, 75% of respondents recently interviewed admitted to never wearing a lifejacket when they fish.

There are a number of national blackspots that can be attributed to rock fishing. It is now well known that many of the drowning deaths off the north and south heads of Botany Bay and the Royal National Park in NSW in the council areas of Randwick and Sutherland are as a direct result of rock fishing, often in dangerous conditions. The Bondi, Dee Why and Manly areas (also in NSW) also have an over representation in rock fishing incident data.

Where the nationality or ethnicity of victims could be identified, North Asian ethnicities were over represented including countries such as China, Korea, Vietnam and Hong Kong. This presents an accessibility issue as the methods of accessing and presenting safety messages to these target audiences are challenged by the difficulty to narrow down the best methods of distribution and overcoming the language barriers. That being said there was also a significant representation of Australians, highlighting the need to target the broader population.

Over the past 12 months, Surf Life Saving has developed a national rock fishing safety strategy in conjunction with its partners Australian National Sportfishing Association and the Australian Recreational and Sport Fishing Confederation including their affiliated bodies.

This includes the launch a new safety program with an over-arching message 'always wear a lifejacket and don't put your life on the line', multi-lingual educational resources, community workshops and additional 'angel rings' (life buoys installed at popular ocean rock fishing spots). Further, the strategy includes the development of a rock fishing specific coastal audit methodology and enhancement of hazardous rock fishing condition forecasting.



## References

1. 2009 National Coastal Safety Report, Surf Life Saving Australia, Sydney, Australia 2009.
2. 2003 Safewaters Report.
3. 2009 Coastal Safety Survey SLSA.

## PRESENTATION PAPER

### Background

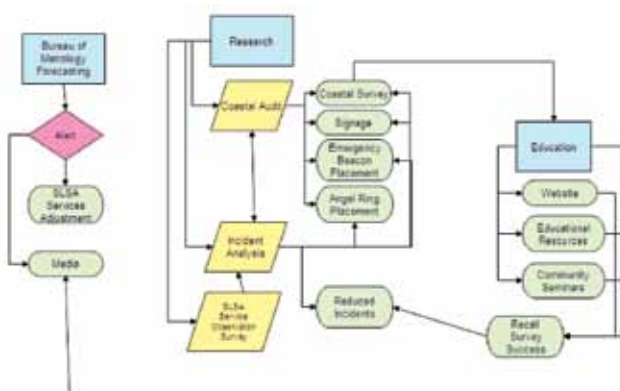
Rock fishing fatalities have continued and refuse to subside regardless of the intervention measures tried over the past few decades. Each year they represent approximately 10% of coastal drowning fatalities which, over time, amounts to a significant number of tragedies. Of the 474 incidents analysed over the 2004 to 2008 period, 42 of those have been linked to rock fishing. It is suspected a number of others in the rock/cliff related category could also be attributed to the activity<sup>1</sup>. There are a number of national blackspots that can be attributed to rock fishing. The council areas of Randwick and Sutherland (NSW) and San Remo (Vic) have the most prominent over representation in rock fishing incident data.

Where the nationality or ethnicity of victims could be identified, North Asian ethnicities were over represented including countries such as China, Korea, Vietnam and Hong Kong (26% of total fatalities). This presents an accessibility issue due to the challenges of narrowing down the best methods of distribution and overcoming the language barriers. That being said there was also a significant representation of Australians (29%), highlighting the need to target the broader population.

### Methods

In light of the ongoing issues regarding rock fishing fatalities, blackspots and high risk population groups being spread over such a wide geographical area, Surf Life Saving (SLS) commenced working on a national strategy to target this trend. The strategy aims to meet the Australian Water Safety Strategy priority areas of addressing high risk locations and meeting key drowning challenges, working towards reducing drowning deaths by 50% by 2020<sup>2</sup>. The strategy has been developed in conjunction with Australian National Sportfishing Association and the Australian Recreational and Sport Fishing Confederation including their affiliated bodies so that existing efforts being put into reducing the incidence of rock fishing fatalities could be aligned.

**Figure 1:** The process flow for the Rock Fishing Safety Intervention



In bringing together these existing efforts, the strategy was aligned to target each of the four factors that lead to drowning:

1. Lack of knowledge, disregard or misjudgement of the hazard
2. Uninformed, unprotected or unrestricted access to the hazard
3. Lack of supervision or surveillance
4. An inability to cope once in difficulty.

By doing so, we were able to break down the action plan components using the following sub-headings:

### Education, information and acquisition of survival skills

Due to the ongoing disregard or misjudgement of the inherent dangers of rock fishing, it was deemed critical to ensure a clear and effective education plan and resource was developed to promote key safety messages and advice.

A pre-campaign survey was conducted at high risk rock fishing locations in New South Wales and Victoria to assess the level of awareness and gauge a benchmark for any future interventions:

- Demographic information, e.g. age, ethnicity, area of residence, etc.
- Frequency and experience in rock fishing
- Safety measures exercised
- Knowledge of safety advice.

The most notable finding was that 31 of the 42 respondents admitted to never wearing a lifejacket.

Existing education initiatives and material were examined, the most prominent being the 'Don't put your life on the line' campaign originally created in New South Wales. It was decided that instead of re-inventing the wheel we would look at improvements that could be made to this initiative to maximise penetration of the safety advice and take it national. Steps that were taken include:

- Increased emphasis on the use of lifejackets
- Simplification of the existing advice ensuring a combination of preventative and survival advice to ensure the pre-survey findings were addressed
- The alignment of the key safety advice across the campaign collateral
- Creating a resource that was easier to distribute via mail and on location.



**Figure 2:** Some examples of the educational resources that have been produced.

In addition to the collateral adjustments, there were two other core components to the education programme:

1. a face to face workshop developed to be run periodically in conjunction with local fishing and community groups and,
2. an increased online presence was deemed essential to allow reach to a wider audience and also provide incentive to research safety related information ([www.safefishing.com.au](http://www.safefishing.com.au))

The initiative was launched in early November 2009 and received widespread media coverage particularly in New South Wales where it was launched and in the ethnic media due to targeted invitees. The launch was coupled with:

- Face to face workshops held in Sydney (NSW), Melbourne (Vic) and Perth (WA)
- An ethnic media buy targeting national multi-lingual newspapers and localised ethnic and coastal publications
- Launch of an online lifejacket competition using the safe fishing website
- A mail out of the resource with a 'call to action' to an ethnic contact database, libraries and tackle shops in select areas, lifesaving services and relevant water safety organisations.

#### **Denial of access, improvement of infrastructure, provision of warnings and supervision**

An assessment of existing initiatives that focussed on installing infrastructure and providing warnings on location to rock fishers was made. A trial coastal public safety risk assessment focussing on rock fishing in Australia's highest rock fishing fatality hotspot, Randwick City Council, was initiated. This process applied spatial data and images, the Australian Beach Safety And Management Program (ABSAMP) beach classification system and beach hazard rating, residential and tourist populations, rock fishing activities and data collected as part of the Coastal Safety Survey, plus records and results from stakeholder interviews and incident reports, plus records and results from an extensive on-site assessment of the coastal zone.

Work also continues with the Bureau of Meteorology (BOM) to improve coastal warnings when hazardous conditions are forecast so that rock fishing is one of the aquatic activities flagged in bulletins. This could also eventually incorporate the work being done by the University of New South Wales Water Research Laboratory.

Additional 'angel rings' (life buoys installed at popular ocean rock fishing spots) on the coastline in high risk locations. Further, the strategy includes the development of a rock fishing specific coastal audit methodology and enhancement of hazardous rock fishing condition forecasting.

#### **Results**

The post campaign launch evaluation is currently underway in NSW, Vic and WA. Key preliminary findings indicate (n = 45):

- Successful exposure of the target demographic to the media component of the campaign (42%)
- Limited recall of the safety advice in the advertising (40%), but where stated 'lifejacket' was most recalled
- Awareness of online presence is poor (18%)
- Where the advertisement was provided respondents considered the advice as extremely clear (71%) and important (78%) but only 41% stated it would change their behaviour
- 82% of respondents still admitted to never wearing a lifejacket.

However, anecdotal observations by Surf Life Saving services suggest that there has been an increase in the use of lifejackets at some high risk areas including Randwick City Council.

Further, analysis of online activity has shown over 1,500 website hits and almost 850 lifejacket competition entries since the beginning of November 2009, particularly within the target demographic of North Asian ethnicities.

The 2009 and 2010 (to date) national coastal safety report data reveals that rock fishing related deaths on the coast have continued with 21 confirmed cases for that period. Within this figure, 7 (33%) victims were within the target demographic of the campaign.

#### **The Way Forward**

Despite the best efforts of the working group and alignment under a national strategy, it would seem that there is still some way to go in reducing rock fishing related drowning deaths and installing a culture of safety amongst rock fishers particularly in the North Asian demographic.

Research continues in studying fishing safety knowledge and behaviour and a second media drive is planned for March 2010, once the post-evaluation from the November 2009 launch is concluded. It is possibly too early to tell or even expect a dramatic change in behaviour and attitude, but it is hoped that the cooperation and collaboration of agencies and land owners with a vested interest in rock fishing safety will continue and have a positive impact, improving relationships, the level of safety knowledge and reduce rock fishing related drowning deaths.

## References

1. The National Rock Fishing Safety Strategy, Version 1.1, June 2009.
2. Australian Water Safety Strategy 2008-2011, May 2008.

## Acknowledgements

1. Surf Life Saving Australia would like to acknowledge the following partners in this strategy:
  - Surf Life Saving New South Wales (SLSNSW)
  - Westpac Life Saver Helicopter (Greater Sydney Region)
  - Australian National Sportfishing Association (ANSA)
  - Recreational Fishing Alliance of New South Wales (RFANSW)
  - Australian Recreational and Sport Fishing Confederation (RECFISH Australia)
  - Bureau of Meteorology (BOM)
2. Bernadette Matthews and Life Saving Victoria (LSV) for assistance with ongoing research, data collation and analysis.
3. Multicultural Media and Marketing (MMM) for their assistance with campaign development and implementation.
4. Surf Life Saving programs and services are supported by the Australian Government through funding received from the Department of Health and Ageing (DOHA).
5. Recreational Fishing programs are supported by the Australian and NSW Government through funding received from the Department of Agriculture, Forestry and Fisheries and the NSW Recreational Fishing Trust Fund.

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# ASSESSING INJURIES AMONG RECREATIONAL WATER USERS IN WESTERN AUSTRALIA: THE WET AND WILD PILOT STUDY

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## ABSTRACT

### Background

While participation rates for recreational water activities, including kite surfing, personal watercraft (PWC) riding and towed water sports (TWS), have been increasing, the injury patterns and safety practices for these three activities have not previously been well described.

### Methods

A web-based survey was developed to describe risk and protective factors as well as injuries among kite surfers, PWC riders and towed water activities. In addition, levels of dangerous risk taking and safety consciousness were measured. A total of 145 completed surveys were collected in this pilot study. Recruitment took place at popular locations in the Perth metropolitan area and a response rate of 60% was achieved.

### Results

Overall, 43% of the respondents reported having had an injury in the previous 12 months with more kite surfers and TWS participants reporting an injury than PWC riders. Two common causes of an incident were landing awkwardly and trying a new trick. Participants who were not a member of a water sport club were less likely to have had an injury in the previous 12 months than those who were members.

While PWC riders were less safety conscious than kite surfers and TWS participants, they also reported to not taking as many risks as the other two sports.

## Discussion

While this pilot study identified some key risk factors for injuries and incidents among the three water activities, it remains important to undertake a larger study to allow more detailed analysis.

## PRESENTATION PAPER

### Background

The increased promotion of physical activity has led to an increase in the number of accompanying injuries (Finch & Owen, 2001; Bauman et al., 2002). Recreational water activities have experienced growth in popularity in recent years and are rapidly increasing (Whitfield & Roche, 2007; Kim et al., 2003; Burger & Leonard, 2000). There is limited research related to exposure, injuries, risk and protective behaviours among three popular water activities, these being kite surfing, personal watercraft (PWC) riding, and towed water sport (TWS) activities. The overall aim of this study was to identify the magnitude of injury among popular recreational water activities in Western Australia (WA). The specific objective for this presentation is to identify, describe and compare injuries among the three groups of recreational water sport enthusiasts.

### Methods

An online survey was developed with assistance of an expert reference group that included kite surfers, PWC riders, and TWS participants. Study participants were recruited from popular beaches in the Perth metropolitan area and along the Swan River. In total, 246 people were approached of which 145 completed surveys, providing an overall response fraction of 59.6%.

### Results

A total of 145 surveys were completed (57 kite surfers, 47 PWC riders, and 41 TWS participants). Of these, 43% of study participants reported to having had at least one injury in the past 12 months. This equates to an injury incident rate of 22.3 injuries per 100 hours of recreational sporting activity. The majority of injuries (51%) occurred while on the water and were mainly caused by landing awkwardly (56%) and/or trying a new trick (41%).

### Discussion

This study provides valuable information about injuries among kite surfers, PWC riders and TWS participants as well as an insight into their behaviour while participating in their sport. A larger study investigating the individual water sports is necessary to elucidate specific issues related to keeping these participants safe.

Overall differences in injury incident and severity were found between kite surfers, PWC riders, and TWS participants. Kite surfers were found to be more likely than the other two water sports in this study to have had an injury in the past 12 months. All three recreational water sports participants who were involved in competitions were more likely to have an injury in the last 12 months, which may suggest that those competing take more risks (possibly because of higher levels of exposure due to training) than those who participate in those activities at a social level.

## Conclusion

The rising number of people participating in kite surfing, PWC riding, and towed water sports requires vigilance in terms of injury incidents. This pilot study has been successful in identifying that participants in these recreational water activities are at risk of injury; however, further research is needed to identify specific issues relating to each individual sport. In this way safety, education strategies most appropriate to the sport can be developed.

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# EXAMINATION OF RECREATIONAL FISHING FATALITIES IN NSW 2000-2007

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## ABSTRACT

### Background/Introduction

Fishing is one of Australia's largest recreational activities. Approximately 4 million Australians fish recreationally at least once every year. Unfortunately this results in many drowning deaths across Australia. NSW accounted for 50% of all fishing related drowning deaths in 2006/2007. More specifically, rock fishing is probably the most dangerous sport in Australia. Seventy-four people died while rock fishing between the years 1992 and 2000, in New South Wales alone.

In 2003, a report entitled "Investigation into the coronial files of rock fishing fatalities that have occurred in NSW between 1992 and 2000" was produced by Matthew Jones for the NSW Water Safety Taskforce. The aim of the research was to provide details of the demographics of the rock fishing fatalities and the circumstances surrounding the rock fishing fatality incidents so that better solutions to address the safety of the sport could be developed.

The NSW Water Safety Advisory Council has recommended that research into all recreational fishing fatalities that have occurred in NSW since the last investigation was conducted in 2003 should be undertaken. The outcomes of the research will be used to assist the water safety advisory committee in identifying and prioritising future prevention strategies and programs.

Members of the NSW Water Safety Advisory Council will then be able to develop appropriate prevention strategies and campaigns to address the safety of recreational fishing in NSW.

The project objectives were in two phases:

### Phase 1

- Identifying and describing all recreation fishing related drowning deaths in NSW from 2000 - 2007.
- Comparing changes in rock fishing drowning deaths to the previous study.

- Examining and evaluating media reporting of recreational fishing deaths.
- Reporting on recommendations made by coronial inquests in relation to recreational fishing fatalities.

### Phase 2

Surveying rock fishers to gain further information about:

- Participation rates in recreational rock fishing.
- Compliance rates of fishing licences.
- Past injuries sustained by rock fishers whilst fishing and incidents that compromised a rock fishers safety.
- Precautionary measures taken by rock fishers to ensure personal safety whilst rock fishing.

### Methods

Phase 1 of the project included an examination of all fishing related drowning fatalities in NSW for the period 1 July 2000 to 30 June 2007 identified in the National Coroners information System (NCIS) and supplementary information provided via media and Royal Life Saving Society- Australia databases.

Information was compiled on the following categories:

- Age
- Gender
- Tourist status
- Country of origin
- Cause of death
- Location
- Area
- Activity
- Time of incident
- Day of incident
- Month of incident
- Year of incident
- Season
- Environmental information
- Blood Alcohol Content
- Postcode of deceased
- Possible contributing factors

This information has been collated in a database and analysed using SPSS. A report to identify key issues has been produced. This report has also examined changes in drowning deaths from the previous study and identified key rock fishing drowning issues.

An online survey was also created to obtain further information on current thoughts and practices of recreational fishers and also provided a demographic of current recreational fishers.

### Phase 2

A random telephone survey of 1,000 rock fishers was undertaken to examine issues around safety, participation, past injuries, and precautionary measures undertaken.

As part of this project a reference group was established to provide input into data collection items, survey and recommendations from the research. The reference group comprised of representatives from: Royal Life Saving Society - Australia, NSW Health, NSW Department of Sport and Recreation, NSW Water Safety Advisory Council and NSW Department of Primary Industries.

### Results/Evaluation

There were 101 recreational fishing deaths in New South Wales from the 1st of July, 2000 to the 31st of June, 2007. That is an average of 14.4 deaths per year. In specific, rock fishing has an average of 7.1 deaths per year, while fishing has an average of 7.3 deaths per year.

Of these 101 recreational fishing deaths, 50% were due to rock fishing. Another important finding was that males accounted for 100% of recreational rock fishing fatalities. For the 51 recreational fishing fatalities, 98% were males, with only 1 female fatality.

### Recreational Rock Fishing

The 45-54 year age group accounted for the highest fatality with 15 deaths, followed closely by the 35-44 year age group with 13 deaths. Rock fishers with an Asian background accounted for an alarming 23 fatalities, which is almost 50% of all fatalities. The financial year in which most rock fishing deaths occurred was in 2003-2004 and 2005-2006 with 9 deaths. The ocean was the most dangerous place to rock fish as there were 39 fatalities. Nearly all rock fishing fatalities were a result of being swept off their feet by a wave.

There were 14 fatalities in Autumn followed by Summer and Winter which each had 13 rock fishing fatalities.

### Recreational Fishing

The most fishing fatalities occurred in the 65+ age group with 12 fatalities (23.5%). Of these fatalities 44 were Australian born representing just over 85% of all fatalities.

The most common location of fishing deaths was the ocean, with 23 deaths. Weekdays were also the time when fatalities occurred most, with 34 deaths. There were 8 fatalities in December, followed by 7 in January and 6 in June. Summer proved to be the most dangerous time to fish with 17 deaths. The financial year 2001-2002 had the most fishing fatalities, with 15 deaths.

### Discussion

From Phase 1 of the project, it is clear that much more needs to be done to prevent recreational fishing and rock fishing fatalities in New South Wales. An average of 14 deaths per year is not acceptable and is of high concern.

Rock fishers of Asian background need special attention, as they account for almost 50% of deaths. Also, males over 65 years are also of concern as they make up 23.5% of fatalities.

The ocean was the most dangerous location as it had the highest fatality rate for both fishing and more specifically rock fishing. Therefore, safety precautions need to be taken in and around the ocean. Waves are unpredictable and can occur at any time.

It is interesting to note that for both fishing and rock fishing there is not one main season in which fatalities occur. Whilst the majority of fishing fatalities occurred in summer, there continued to be a high number of fatalities throughout spring, autumn and winter as well. This shows that recreational fishing is an all year round activity.

### Conclusion

Recreational fishing is a popular activity of Australians. This is why we must address the high fatality rates of rock fishers of Asian backgrounds through culturally specific safety awareness programs. We must also address the high death rates of fishing for the over 65 year age group through safety awareness and coordinated fishing group programs.

## PRESENTATION PAPER

### Background/Introduction

Fishing is one of Australia's largest recreational activities. Data from the Australian Bureau of Statistics (ABS, 2005) showed that in 2000-01 there were 3.4 million Australians (2.3 million males and 1.1 million females) over the age of five years, who had been fishing at least once in the last 12 months. Unfortunately this interaction with water resulted in drowning fatalities across Australia. In 2006-2007, NSW accounted for 50% of all fishing related drowning fatalities and in 2008/09 there were 14 fishing fatalities in NSW.

In 2003, a report entitled "Investigation into the coronial files of rock fishing fatalities that have occurred in NSW between 1992 and 2000" was produced by Matthew Jones for the NSW Water Safety Taskforce. The aim of this research was to provide details on the demographics and circumstances surrounding rock fishing fatality incidents, to enable the development of better solutions to address the safety of recreational rock fishers. In the report there were 74 rock fishing fatalities from 1992- 2000, which equates to approximately 9 fatalities per year. In 1993 the NSW Coroner (cited in Jones, 2004) stated that rock fishing has the highest fatality rate of any sport in NSW.

The NSW Water Safety Advisory Council (NSWWSAC) recommended that research into all recreational fishing fatalities that have occurred in NSW since the last investigation should be conducted. The outcomes of the research will then be used to assist the NSWWSAC in identifying and prioritising future prevention strategies and programs.

Members of the NSW Water Safety Advisory Council include: NSW Fisheries, NSW Department of Health, NSW Department of Local Government, NSW Department of Sport and Recreation, NSW Local Government and Shires Association, Surf Life Saving New South Wales, Royal Life Saving Society -Australia, Tourism New South Wales, and Waterways Authority.

### Methods

Phase 1 of the project included an examination of the demographics and contributing factors of all recreational fishing related drownings that occurred in NSW for the period 1 July 2000 to 30 June 2007.

These were identified in the National Coroners Information System (NCIS) and supplementary information provided via media and Royal Life Saving Society - Australia databases to address a lack of information available on recreational fishing fatalities in NSW. Information was compiled on: age, gender, tourist status, country of origin, cause of death, location, activity, time, day, month, year, environmental information, blood alcohol content, postcode and contributing factors. We provide here provisional results, as information is likely to change as we complete the examination of Coronial files.

Phase 2 of the project included the creation of an online survey to obtain further information on recreational fishers, their current perceptions and practices. Areas within the survey included: demographics, access, exposure, safety and rock fishing. Flyers detailing the survey were created and sent out to every listed NSW fishing tackle and bait store in the yellow pages and Fishpo (fishing directory and guide) website. A Media Release was also emailed to NSW newspapers and fishing related Magazine Publications.

As the online survey is still open, preliminary data is discussed. To date (03-03-2010), there have been 108 respondents to the online survey. Of these respondents, 87 completed the entire survey and 1 was deleted for inappropriate responses.

A simple random telephone survey of 1,000 rock fishers is yet to be undertaken to examine issues around safety, participation, past injuries and precautionary measures. All participants who stated they rock fished and left their contact details at the end of the online survey qualify to participate.

## Results/ Evaluation

### Phase 1

There were 101 recreational fishing fatalities in New South Wales from the 1st of July, 2000 to the 31st of June, 2007. That is an average of 14.4 fatalities per year. In specific, rock fishing had an average of 7.1 fatalities per year, which made up 50% of all drownings. Males represented 100 recreational fishing fatalities (there was only 1 female). Of these fatalities, over half were Australian born. A quarter of all drownings occurred in the 45-54 year age group and one fifth of drownings were in the 35-44 year age group.

The most common location for recreational fishing fatalities was the beach/coastal areas (62 fatalities). Almost two-thirds of fatalities occurred in Major Cities and one third occurred in Inner Regional Australia.

Weekdays were most common for fatalities, with 62 compared to 39 on weekends. However, taking into account only days, Saturday was the most common day for fatalities, with 25 drownings. Daytime (46 fatalities) was the most common time of day, followed by dusk (10 fatalities) and night (9 fatalities). There was only one fatality at dawn and one third of fatalities had an unknown time.

Summer (30 fatalities) was the most common time of year, followed by autumn (26 fatalities), winter (23 fatalities) and spring (22 fatalities). In terms of months, the highest fatality number was in April (13 fatalities), followed by October and February with 11 fatalities.

The financial year in which most fishing fatalities occurred was in 2001/2002 (23 fatalities).

### Recreational Rock Fishing

Recreational rock fishing is the most dangerous recreational fishing activity as it accounts for half of all recreational fishing fatalities. Males accounted for all recreational rock fishing fatalities. The 45-54 year age group had the highest number of drownings (15 fatalities). Rock fishers of Asian backgrounds accounted for half (23 fatalities) of all rock fishing fatalities. Australian born fishers represented 10 fatalities and 18 fatalities had an unknown country of origin.

The ocean was the most dangerous place to rockfish (39 fatalities). Two-thirds of rock fishing fatalities were a result of being swept off their feet by a wave. Autumn (14 fatalities) was the most dangerous season to rock fish. Summer and Winter each had 13 fatalities. The financial year in which most rock fishing fatalities occurred was in 2003/2004 and 2005/2006 with 9 fatalities each. Weekdays were most common for fatalities, with 29 compared to 21 on weekends. Just under half of all fatalities occurred during the day, 9 fatalities occurred at dusk and 2 occurred at night time. No fatalities occurred during dawn and there were 15 fatalities that had an unknown time of death.

### Phase 2

Preliminary results are as follows:

- 89% of respondents were male.
- 14% of respondents were aged between 35-39 years and 60-64 years.
- 65% of respondents were born in Australia.
- 93% of respondents did not speak another language other than English at home.
- 29% of respondents heard about the survey from Fish Care Volunteers, the Coast Guard and from the flyer sent out.
- 84% of respondents drove their own car to their fishing location.
- 58% of respondents fished at places familiar to them.
- 79% of respondents usually fished off a boat.
- 30% of respondents had been fishing once a fortnight in the last 12 months.
- 91% of respondents had been fishing during high tide, 45% during rough waters and 36% during thunder and lightning storms.
- There were no angel rings present at 70% of locations fished at.
- 71% of respondents fished an average of 2 to 4 hours per trip.
- 50% of respondents preferred to fish any day.
- 53% of people usually fished at dawn.
- 49% usually fished with one other person and 22% fished by themselves.
- 52% of respondents had not heard any fishing safety campaigns/ materials.
- 67% of respondents would go to the internet for fishing safety information and 4% would go to a Lifeguard/ Lifesaver.

- 78% stated that other people sometimes fished where they were.
- 18% had to rescue someone whilst fishing and 7% had to be rescued whilst fishing.
- 97% knew the main emergency telephone number.
- 49% did not know the alternative emergency number.
- 79% of respondents always informed others where they were going.
- 52% never wore a life jacket.
- 57% never turned their back to the sea.
- 88% never got swept off their feet by a wave or swell.
- 90% always checked sea and weather conditions before fishing.
- 87% always had a mobile phone with them when fishing.
- 66% never drank alcohol before or whilst fishing.
- 75% always knew the nearest escape route.
- 39% of respondents stated that they could comfortably float and gently swim for up to 60 minutes and 8% of respondents could comfortably float for up to 1 minute and swim a short distance.

### Rock Fishing

Preliminary results for rock fishing are:

- Overall, 53% stated that they fished off rocks.
- 74% of respondents noted that other rock fishermen were at the same location as them.
- 79% of respondents stated that the other rock fishermen had one or more person with them, whilst 21% stated that they were by themselves.
- 72% of respondents stated that they never saw the other rock fishermen wear a life jacket.
- 65% saw them turn their back to the sea.
- 47% saw them wearing shoes with non-slip soles or cleats.
- 56% witnessed them getting swept off their feet by waves or the swell.
- 42% saw they always had a mobile phone with them.
- 48% stated they never saw them drink alcohol whilst fishing.

### Discussion

From Phase 1 of the project, it is clear that much more needs to be done to prevent recreational fishing and rock fishing fatalities in New South Wales. An average of 14 fatalities per year is not acceptable and is of high concern. Rock fishers of Asian backgrounds need special attention, as they accounted for almost 50% of fatalities. Males over 65 years are also of concern as they make up 24% of fatalities. Safety precautions need to be taken in and around the ocean. Waves are unpredictable and can occur at any time without warning. It is interesting to note that for both fishing and rock fishing there is not one main season in which fatalities occur. Whilst the majority of fishing fatalities occurred in summer, there continued to be a high number of fatalities throughout spring, autumn and winter as well. This shows that recreational fishing and rock fishing is an all year round activity.

From Phase 2 of the project, it is clear that much more safety awareness materials/ campaigns are needed to educate and prevent recreational fishing fatalities as over half of respondents had not heard about any fishing safety materials/ campaigns. 53% of respondents stated that they rock fish and 79% stated they fished off a boat; however life jacket use is very poor, with 52% never wearing one whilst fishing. Knowledge of the alternative emergency number was also very poor with 49% of respondents answering incorrectly. It is also evident that more angel rings need to be installed or become more prominent to fishers as 70% stated that there were no angel rings at the locations they commonly fished.

### Conclusion

Recreational fishing is a popular activity of Australians. This is why we must address the high number of fatalities of rock fishers of Asian backgrounds through culturally specific safety awareness programs. We must also address the high number of fatalities due to fishing for the over 65 year age group through safety awareness and coordinated fishing group programs.

### Acknowledgements

Royal Life Saving NSW acknowledges the following organisations for their assistance:

- NSW Government
- The National Coroners Information System
- State Coroners
- Rehome Media / Media Monitors
- The Australian Bureau of Statistics
- Australian Water Safety Council

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## PRESENTATIONS:

# SAFE VENUES

## 18 REMOTE SWIMMING POOLS IN THE NORTHERN TERRITORY – ARE THEY SUSTAINABLE WITHOUT A PLAN?

**FLOSS ROBERTS**

*Executive Director, Royal Life Saving Society - Northern Territory*

**JUSTIN SCARR**

*Chief Operating Officer, Royal Life Saving Society – Australia and Drowning Prevention Commissioner, International Life Saving Federation*

Royal Life Saving Society – Australia (RLSSA) has a long standing commitment to working to achieve the health, social and economic benefits of swimming pools in remote areas. Our track record includes a strong partnership with all levels of government, and supportive relationships with communities across the Northern Territory.

The Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) commissioned RLSSA to investigate the issues and opportunities relating to swimming pools in remote areas of the Northern Territory. There are 18 swimming pools in remote areas across the Northern Territory. These swimming pools service a population exceeding 19,000 people in mainly remote Indigenous communities, but some are also located in small regional towns.

There is considerable evidence that swimming pools have significant health benefits for Indigenous children living in remote communities. Further work is needed to quantify the social and economic benefits that most feel exist. Through the implementation of strategies including: key stakeholder interviews; formal and informal meetings; workshops and conferences, many of which were conducted in the 18 communities with swimming pools, RLSSA sought to identify strategies for improving the management and operation of those swimming pools.

Additionally, RLSSA conducted swimming pool safety assessments to ascertain safety compliance against relevant standards and guidelines. The results of these assessments provide many insights including a high rate of non-compliance against safety benchmarks, an absence of business or risk management planning, and large gaps in workforce development strategies. The overriding feel of those who participated in this investigation was that without a coordinated response to managing swimming pools in remote areas, talk of health, social or economic benefits was largely academic, as swimming pools must be accessible, functioning and well integrated into community life for any such benefits to be realised.

As a general overriding principle RLSSA believes that swimming pools must be considered a core community service, with potential benefits that reach beyond the simple provision of recreational swimming opportunities for children and interested adults. A shift in mindset is required to realise the view that swimming pools are a social asset, with strong links to a range of outcomes in areas of health, employment, youth leadership and family relations.

Swimming pools require a budget allocation from all levels of government that values them beyond their basic ongoing maintenance cost, and includes the costs of service provision, community engagement and infrastructure revitalisation. User pays and other cost recovering systems need urgent investigation to ensure that all parties, including community members contribute to sustainable swimming pool plans.



Our track record includes a strong partnership with all levels of government, and supportive relationships with communities across the Northern Territory.

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# 5 STAR WATER SAFETY PARTNER INITIATIVE

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### ABSTRACT / PRESENTATION PAPER

Royal Life Saving NSW has developed a strategy to assist in the industry wide implementation of the recommendations handed down by the NSW Coroner in relation to School based activities at Public Swimming Pools.

The recommendations include responsibility for both the schools and responsibility for the pools. As part of the response to this incident Royal Life Saving NSW in conjunction with the Department of Education has developed the '5 Star Water Safety Partner Initiative'.

Royal Life Saving encourages all NSW schools and the community to seek out swimming pools who display the "5 Star Water Safety Partner" logo. Participating swimming pools have been deemed compliant against 40 pre-determined aquatic safety criteria, therefore demonstrating a strong commitment to aquatic safety standards.

The 40 aquatic safety criteria have been sourced from the Guidelines for Safe Pool Operation (GSPO). The GSPO were established in consultation with industry and other expert personnel and are subject to ongoing review and formal evaluation.

5 Star Water Safety Partners commit to an annual audit undertaken by Royal Life Saving. Swimming Pools who meet the 5 Star criteria will be listed on the Royal Life Saving website.

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# PUBLIC POOL INJURY REPORTING SYSTEM

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## DR RICHARD FRANKLIN PhD

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### ABSTRACT

#### Background/Introduction

NSW Pool Operators now have access to a free online tool to help them monitor and address safety issues in their centre. The new website will help centres collect data on all types of injuries into one central database. The aim is to help individual centres identify specific risks and improve safety.

#### Methods

This study aims to describe the type of injuries that occur at public swimming pools, the locations within the pools where injuries occur, the type of medical treatment required and the rate of injury. The aquatic centre data will quantify the likelihood of an incident occurring while taking into account the measures being employed to protect public safety.

#### Results/Evaluation

The collection, analysis and publication of this injury data will allow aquatic facility operators to benchmark their situation against an industry average or standard.

#### Discussion

The data collected will assist Royal Life Saving strengthen the Guidelines for Safe Pool Operation because it will clarify risk factors that are not necessarily obvious. The online format also speeds the process up, so if there is any trend emerging about specific injury risks it can be addressed more rapidly.

#### Conclusion

It is in everyone's interests to reduce the number of injuries that occur at public aquatic centres. Royal Life Saving believes this new website will help all aquatic centres improve safety at their facilities.

#### Acknowledgements

NSW Sporting Injuries Committee

## PRESENTATION PAPER

### Introduction

Participation in swimming activities provides a variety of health, physical, mental, social and economic benefits to the individual and the community. However, an increased level of participation in swimming activities increases exposure to the risk factors associated with injury in public pools. The community visit aquatic and recreation centres in New South Wales 39 million times per year and more than 5000 people are directly employed in public aquatic facilities.

Swimming is an integral part of the Australian lifestyle attracting 1.6 million regular adult participants per year, the third highest participation rate of physical activities in adults. It also has the highest participation rate of 19% in children aged five to eleven years.

Public swimming pools can be a great place for fun and enjoyment, with a variety of different facilities, lessons and classes available for patrons. There are over 370 swimming pools in metropolitan, regional and rural NSW. These facilities and venues play a vital role in aquatic skill development, recreation and leisure pursuits, sport and healthy active lifestyles of each community. However, as with any aquatic locations, public pools can become dangerous places if appropriate safety rules are not followed. Injury and death in public swimming pools is a major issue faced by the Aquatic and Recreation Industry.

Previous studies have examined drowning fatalities in public and residential swimming pools and the potential factors involved. However, there have been few studies that have detailed the extent of other injuries that occur in commercial aquatic facilities. It was identified that larger long term studies and improved standardised data collection were required to clearly identify risk factors for injury at public swimming pools and to evaluate the effectiveness of injury prevention measures such as patron education and lifeguard training.

### Methods

According to an online survey conducted by Royal Life Saving, 96.9% of all centres surveyed reported that they collect incident report forms. 89.7% of all centres surveyed reported collating and analysing this information. This information is collated to:

1. Improve safety standards at centre
2. Enhance professional development of staff
3. Adhere to insurance and liability purposes
4. Monitor first aid supplies
5. Use as Performance Indicators
6. Compare to other centres in council area/management company

The Public Pool Injury Reporting System (PPIRS) was developed following recommendations by a pilot study undertaken in Victoria which recognised the need for a standardised incident report form. This standardised incident report form would ensure reliability and consistency in the collection of data and alleviate the need to different forms from individual commercial aquatic facilities.

This project aimed to develop an online collection tool for use by commercial aquatic facilities to collect and analyse the type of injuries that occur at public swimming pools, the locations within the pools where injuries occur, the type of medical treatment required and the rate of injury. The commercial aquatic facility data will quantify the likelihood of an incident occurring while taking into account the measures being employed to protect public safety.

### Results

Royal Life Saving aimed to develop a data entry system, accessible via the web, which allowed facility managers and staff to log onto, submit the information and print a hard copy of a standardised and consistent incident report. The Royal Life Saving website [www.pool-injury.com.au](http://www.pool-injury.com.au) was acquired to develop an industry website on which the injury surveillance tool is hosted.

The PPIRS was developed using existing incident report fields, consultation with commercial aquatic facilities and the Royal Life Saving Risk Management Department and the National Data Standards for Injury Surveillance. The report fields were refined in both the development and pilot phase of the project. Future modifications are possible and are likely to be made following future feedback from participating centres and revision of the GSPO. These fields include:

- Name of person entering data
- Date/Time
- Who was injured
- Incident type
- Nature of injury
- Location within centre where injury occurred
- Did injury occur at a structured event
- First Aid details
- Demographics of injured person
- Details of Injured person, Guardian and First responder
- Managers Comments and Preventative Actions

### Individual Reports

In the PPIRS managers of a facility are able to view all incidents that have occurred in their facility and can then search a number of fields to be able to either identify individual cases or series of cases based on:

- Incident Time/Date
- Who was injured
- Incident Type
- Sex
- Age
- Casualty Postcode
- Location within Centre
- Structured Event
- Event Type
- First Aid

### Industry Reports

Overall Industry Reports are generated by Royal Life Saving for all participating centres. The collection, analysis and publication of this injury data will allow aquatic facility operators to benchmark their situation against an industry average or standard.

### Pool Summary

This feature allows commercial aquatic facilities to view overall incidents at a glance and outlines:

- Number of incidents recorded at the facility
- Number of incidents in the AM / PM
- Number of incidents patrons injured
- Number of indoor / outdoor incidents
- Number of incidents requiring first aid
- Number of aquatic / non-aquatic incidents
- Number of incidents involving males / females
- Number of incidents involving children (aged 0-14 years)

The ability to generate graphs based on an aquatic centre's searches was a tool that was identified and requested within the survey and during industry consultation. The feature automatically generates graphs based on Incidents by month, age range and sex, location within centre and incident type.

### Discussion

There were a number of issues identified during the consultation phase of the project as challenges or barriers to the use of the system. These included confidentiality of data, aquatic season, resourcing and reporting.

### Confidentiality

The need to keep individual records confidential was seen as an essential component of the system from a user's perspective. To ensure confidentiality, on top of the encryption of information in the system and security passwords to access individual records, each facility participating is:

- Provided with a confidentiality agreement. Data is collected, managed and stored in accordance with the Information Privacy Principles of the Privacy Act, 1988.
- Provided with their own passwords (one for the managers and one for staff).

### Aquatic Season

The seasonal nature of the aquatic industry in regional and remote NSW meant the majority of facilities were closed up until October. This therefore resulted in a delay in undertaking planned consultation with smaller more remote facilities. Also once the aquatic season is underway many of the larger facilities are very busy and to change reporting systems during this time is not possible.

### Resourcing

The ability for facilities to train staff, up skill staff on the use of the system and maintain quality information was identified as a challenge to industry. A PPIRS User guide was developed to support facilitates through the process of entering in data.

### Conclusion

The development of the capability to collect injury information from aquatic facilities is only the start of the process for Royal Life Saving to be able to have real time information about injuries in aquatic facilities. There have been a range of future ideas put forward as part of the continuing improvement of the PPIRS by both Royal Life Saving staff and volunteers and industry. These include enhancements to the system, to reporting, to alerts, to improved information for the GSPO.

Possible enhancements to the system include:

- An alert system when a high number of a particular type or location of incident occurs at a centres
- A monitoring system for first aid stock levels and an alert when there is a need to replenish stock
- Multiple reporting, i.e. reports sent directly to council or management company for review.
- Monitoring of patron numbers to provide an accurate risk profile
- Examination of the data to improve training outcomes
- Development of report for specific GSPO guidelines to ensure continuing improvement in industry standards examples may include:
  - Changes to supervision ratios (for swimming lesson/schools etc if more incidents occurring during structured events)
  - Changes to mandatory parental supervision if shown to be an over representation of very young children
  - Changes to first aid requirements and pool lifeguard training
  - Tailored professional development sessions arising from recommendations
  - Development of public education programs based on the information collected targeting inappropriate behaviour by victim, identification of victims with a medical condition/health issues, people with was poor swimming skills or parental/carer supervision

### Acknowledgements

NSW Sporting Injuries Committee

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# COLLABORATION WITHIN THE COMMUNITY

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## ABSTRACT

Fairfield City Leisure Centres (FCLC) has a commitment to the teaching of water safety and survival to the community. Strict safety policies within the centres and a range of safety programs provided to the community facilitates the important water safety message.

### “Stay With Me”

The “Stay With Me” public education program is aimed at children under 5 years of age and their parents or guardians. FCLC chose to focus on drowning prevention strategies for this age group by developing and implementing the “Stay With Me” public education program in 2006.

The campaign educates the importance of a parent or guardian staying within arm’s reach of children under 5 years of age by using a number of strategies. All children under 5 years of age entering our aquatic areas are given a special wristband to wear. This not only identifies them to staff but is a constant reminder to parents and guardians that they need to stay within arm’s reach of them at all times. Recorded messages are also played over our PA system at regular intervals with specific water safety messages such as ‘where is your child now?’.

There are also large signs which clearly state ‘supervise children at all times’. These signs have been translated into four of the more predominate languages within the LGA. Parents and guardians are also given ‘Stay With Me’ information flyers and are informed of our conditions of entry prior to entering the pool.

This program has been successfully running for the last 4 years and patrons are acutely aware of their role in the safety of their children.

### School Excursions Information Package

In 2007, after reviewing local school group’s usage of the facilities, FCLC introduced a School Excursions Information Package. The package was developed as a water safety guide for all school groups participating in various aquatic activities. It was also developed in order to provide a risk assessment of our facilities whilst complying with the Occupational Health and Safety Legislation and Department of Education and Training Policies. A School Excursions Information Package is sent to schools that intend to visit our Leisure Centres. The package outlines any known risks of our centres and allows the opportunity for schools to conduct a risk assessment of their own. The package is monitored regularly and amended accordingly.

### Aquatic Carnival Package

During 2007, FCLC developed an Aquatic Carnival Package which is sent to all schools when they book their swimming carnival at one of our centres. This package identifies how best to ensure the water safety of students during their carnival. It outlines the procedure schools must follow when visiting our centres on the day of their carnival. On arrival the school coordinator must pick up their carnival package and sign in the number of students attending the carnival. The package consists of 3 vests (1 safety coordinator, 2 safety officers) which the school designates to 3 members of staff and must be worn throughout the day. The vests allow their students and our Leisure Centre staff to recognise them in case they are required to assist in an emergency. It also ensures that each school has designated staff monitoring the students as they swim.



The “Stay With Me” public education program is aimed at children under 5 years of age and their parents or guardians.

### Triple 'S'

In the same year, with the increasing interest from local high schools in water safety awareness, FCLC developed and implemented the Triple 'S' Program. The program was initially designed to address the aquatics element of the Sport, Leisure and Recreation module for year 11 students. The program incorporates lifesaving skills, Learn to Swim lessons and a basic Cardio Pulmonary Resuscitation awareness. After the successful introduction of the program to Year 11 students, it was further developed to cater for primary school children.

The Triple S Program is specifically designed to cater for the group's age, swimming ability and competence level. Each program consists of 4 Modules encompassing Water Safety, Strokes, Rescues and CPR Awareness. Students attend a number of scheduled sessions between 1-1.5 hours in both aquatic and classroom environments. These sessions are then repeated throughout the program in order to encourage familiarity and progression. Assessment and feedback is given throughout the program and an individual certificate is awarded to each participant which identifies the skills that they have achieved.

### 'Activegator - "Open Your Eyes - Be Waterwise" Program'

Our pilot water safety program began in September 2005. The 'Activegator - "Open Your Eyes - Be Waterwise" Program' is a water safety presentation that incorporates a water safety video, professionally recorded water safety song with words, and controlled discussion on water safety in swimming pools, beaches, rivers, lakes and dams.

During the discussion component, Learn to Swim and school participants partake in questions and answers regarding water safety and are introduced to the pre-recorded water safety song and encouraged to sing along and participate in specific actions.

Activegator, the centre mascot participates and ensures all participants receive a safety pack at the end of the presentation. This includes safety puzzles, stickers, bookmarks and temporary tattoos which reinforce the importance of water safety.

The program can be presented in a shortened format to Learn to Swim participants after their swimming lesson. This occurs during our 'safety week', which is a specific week during each Learn to Swim program. In addition, water safety skills and pool rules are incorporated into each lesson throughout the program.

As well as being made available to our Learn to Swim students, the program also has an extended format that is presented to school students and takes approximately half an hour for pre-schoolers and 45 minutes to one and a half hours for primary school students.

This presentation involves a more in depth knowledge of water safety around all bodies of water as well as basic survival and rescue skills.

Whether in Pre-school, Kindy to Year 2 or Primary School, ActiveGator will come to your school to spread the valuable water safety message. Each presentation is adjusted to suit the age and ability of the students attending.

ActiveGator also makes regular appearances at local community festivities including the Children's Picnic, various festivals and even shopping centres in an effort to promote the water safety message. The success of this particular program has been tremendous. Pre-schools and schools often plan their calendars to include this program on a yearly basis. Some even have dates at the beginning and end of the same calendar year.

### Water Safety Week

Each year FCLC holds a dedicated Water Safety Week. This week is usually held in October/November and encompasses a range of activities promoting water safety. These include water safety presentations, survival and rescue skills and CPR awareness. ActiveGator also plays an important role during this week by being a regular guest on deck reminding children to obey water safety rules.

Patrons are encouraged to answer questions regarding water safety and receive balloons, tattoos and stickers for their participation.

FCLC promotes this special week through local media and flyers, inviting the community to come along and join in these educational activities to learn about safety around various aquatic environments.

### Aquatic Survival Challenge Testing

With the introduction Royal Life Saving Aquatic Survival Challenge, FCLC Swim Academy now incorporate this Challenge into every school LTS program that is booked with us.

An explanation of the Challenge and its' advantages are sent to the school with their LTS program confirmation. The testing is done during their school LTS lessons and certificates are provided for each student relevant to their level of ability.

These certificates notify the school and the parents as to the child's competency in different aspects of swimming and water safety. In many cases, this can encourage the parents into taking on the responsibility of furthering their child's competency in swimming and water safety.

### School's Information Booklet

The School's Information Booklet has been compiled and made available to all schools in the local community. It details all programs that are offered by Fairfield City Leisure Centres for schools. This booklet has all the relevant information about programs that are offered including swimming lessons, water safety programs, school excursions or even recreational or sporting activities. This enables schools to effectively utilise the community facilities available to them.

### CPR in a Box

In collaboration with Royal Life Saving, Fairfield City Leisure Centres are now offering CPR in a Box to patrons!! Dates have been set throughout the year for those who wish to validate their CPR certificate. FCLC are very enthusiastic about the goal of Royal Life Saving's "Project 50,000" and are promoting this revolutionary idea in an effort to help make households safe throughout Australia.

Fairfield City Leisure Centres will continue to be active in promoting water safety to ensure the continuing awareness and education of future generations within our community.

## PRESENTATION PAPER

Fairfield City Leisure Centres (FCLC) is strongly committed to the teaching of water safety and survival to the community.

FCLC have a number of water safety awareness programs in place. The initial aim of these programs was to provide children with the skills necessary to stay safe in all aquatic environments. The programs were designed to educate parents and guardians that lifeguards and swimming instructors play a role in water safety awareness but they do not replace close supervision by parents and guardians. Strict safety policies at each centre and the range of safety programs provided to the community emphasises the important water safety message.

### “Stay With Me”

The “Stay With Me” public education program is aimed at children under five years of age and their parents or guardians. In 2006, FCLC chose to focus on drowning prevention strategies for this age group by developing and implementing the “Stay With Me” public education program.

The campaign teaches the importance of a parent or guardian staying within arm’s reach of children under five years of age by using a number of strategies. All children under five years of age entering our aquatic areas are given a customised wristband to wear. This not only identifies them to staff but is a constant reminder to parents and guardians that they need to stay within arm’s reach of infants at all times. Recorded messages are also played over the centre’s PA system at regular intervals with water safety messages such as “Where is your child now?”

There are also large signs scattered throughout the Centres with the message: “Supervise children at all times”. These signs have been translated into four of the more predominate languages within the Local Government Area. Parents and guardians are also given “Stay With Me” information flyers and are informed of our conditions of entry prior to entering the pool.

This program has been successfully running for the last four years and patrons are aware of their role in keeping their children safe.

### School Excursions Information Package

In 2007, after reviewing local school group’s usage of the facilities, FCLC introduced a School Excursions Information Package. The package was developed as a water safety guide for all school groups participating in various aquatic activities. It was also developed in order to provide a risk assessment of our facilities whilst complying with the Occupational Health and Safety Legislation and Department of Education and Training Policies. A School Excursions Information Package is sent to schools that intend to visit the Leisure Centres. The package outlines any known risks at the centres and allows the opportunity for schools to conduct a risk assessment of their own. The package is monitored regularly and amended accordingly.

### Aquatic Carnival Package

Also in 2007, FCLC developed an Aquatic Carnival Package. The package identifies how best to ensure the safety of students during the carnival. It outlines the procedure schools must follow when visiting the centre on the day of the carnival. On arrival the school coordinator must pick up their carnival package and sign in the number of students attending the carnival. The package consists of three vests (one safety coordinator, two safety officers) which the school designates to three members of staff and must be worn throughout the day. The vests allow their students and Leisure Centre staff to recognise the coordinator and safety officers in case they are required to assist in an emergency. It also ensures that each school has designated staff monitoring the students as they swim.

### Triple ‘S’

2007 also saw the development and implementation of the Triple ‘S’ (Schools, Strokes and Survival Program). The program was initially designed to address the aquatics element of the Sport, Leisure and Recreation module for Year 11 students. The program incorporates lifesaving skills, Learn to Swim lessons and a basic Cardio Pulmonary Resuscitation awareness. After the successful introduction of the program to Year 11 students, it was further modified to cater for primary school children.

The Triple S Program is specifically designed to cater for the group’s age, swimming ability and competence level. Each program consists of four modules encompassing Water Safety and Survival, Strokes, Rescues and CPR Awareness. Students attend a number of scheduled sessions between 60 – 90 minutes in both aquatic and classroom environments. These sessions are then repeated throughout the program in order to encourage familiarity and progression. Assessment and feedback is given throughout the program and an individual certificate is awarded to each participant which identifies the skills that they have achieved.

### ‘Activegator - “Open Your Eyes - Be Waterwise” Program’

Our pilot water safety program began in September 2005. The ‘Activegator - “Open Your Eyes - Be Waterwise” Program’ is a water safety presentation that incorporates a water safety video, professionally recorded water safety song with words, and controlled discussion on water safety in swimming pools, beaches, rivers, lakes and dams.

During the discussion component, Learn to Swim and school participants partake in questions and answers regarding water safety and are introduced to the pre-recorded water safety song and encouraged to sing along and participate.

ActiveGator, the custom made centre mascot, participates in each presentation with the children. Each participant receives a safety pack at the end of the presentation. This includes safety puzzles, colour – in poster, stickers, bookmarks and temporary tattoos which reinforce the importance of water safety. The program is presented in a shortened format to Learn to Swim participants during ‘safety week’, which is a specific week during each Learn to Swim program. In addition, water safety skills and pool rules are incorporated into each lesson throughout the program.

As well as being made available to our Learn to Swim students, the program also has an extended format that is presented to school students and takes approximately 30 minutes for pre-schoolers and 45 minutes to 90 minutes for primary school students. This presentation involves a more in depth knowledge of water safety around all bodies of water environments as well as basic survival and rescue skills.

Right from Pre-school to Year 6, ActiveGator will come to your school to spread the valuable water safety message. Each presentation is adjusted to suit the age and ability of the students attending.

ActiveGator also makes regular appearances at local community festivities including the Children's Picnic, various festivals, shopping centres and libraries for storytime to promote the water safety message. The success of this particular program has been tremendous. Pre-schools and schools often plan their yearly calendars to include this program. Some even have dates at the beginning and end of the same calendar year.

### Water Safety Week

Each year FCLC holds a dedicated Water Safety Week. This week is usually held in October/November and encompasses a range of activities promoting water safety. These include water safety presentations, survival and rescue skills and CPR awareness. ActiveGator also plays an important role during this week by being a regular guest on deck reminding children to obey water safety rules. Patrons are encouraged to answer questions regarding water safety and receive balloons, tattoos and stickers for their participation.

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These certificates notify the school and the parents about the child's competency in different aspects of swimming and water safety. In many cases, this can encourage the parents into taking on the responsibility of furthering their child's competency in swimming and water safety.

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The School's Information Booklet has been compiled and made available to all schools in the local community. It details all programs that are offered by Fairfield City Leisure Centres for schools. This booklet has all the relevant information about programs that are offered including swimming lessons, water safety programs, school excursions or recreational and sporting activities. This enables schools to effectively utilise the community facilities available to them.

### CPR in a Box

In collaboration with Royal Life Saving, Fairfield City Leisure Centres are now offering CPR in a Box to patrons. Dates have been set throughout the year for those who wish to validate their CPR certificate. We are also receiving great interest from schools within the Local Government Area regarding this promotion.

FCLC are very enthusiastic about the goal of Royal Life Saving's "Project 50,000" and will continue to promote this revolutionary idea in an effort to help make households safe throughout Australia.

All of the above programs are constantly monitored and updated to make sure the latest information within the aquatics industry is passed onto the community to ensure their safety. Fairfield City Leisure Centres continues to be active in promoting water safety to ensure awareness and education of future generations within our community.

### Acknowledgements

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- Fairfield City Leisure Centres
- Song Lyrics: Patricia Krajacic, David Bernoth
- Music: David Bernoth

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# RISK MANAGEMENT AT THE DARWIN WAVE LAGOON

**TONY SNELLING**

*Chief Executive Officer, Surf Life Saving Northern Territory*

**CAMERON GRIFFIN**

*Lifeguard Supervisor, Surf Life Saving Northern Territory*

## ABSTRACT

Aquatic recreation facilities that incorporate waves, slides or other active attractions to provide a sporting, even adventurous recreation experience are becoming more popular in Australia.

Surf Life Saving Northern Territory provides a comprehensive lifeguard service for a new, unique aquatic recreation facility in Darwin's developing waterfront precinct.

A 4,000m<sup>2</sup> chlorinated Wave Lagoon, and an adjacent 18,000m<sup>2</sup> seawater Recreation Lagoon, present unique challenges for lifeguard management when determining an effective Risk Management Strategy and Plan. Major considerations in the Wave Lagoon include the application of different wave cycles to suit patron numbers and patron characteristics, the timing of wave cycles, lifeguard-patron ratios and the determination of acceptable aquatic behaviours and activities.

The Recreation Lagoon is continually flushed with seawater and has protective systems to prevent dangerous marine life from entering the water body and the main swimming area but it has also developed its own unique ecosystem. It requires specialised regular monitoring to provide a safe public swimming and bathing experience.

This presentation will convey the experience of initiating a lifeguard service for a new aquatic recreation facility and will provide data on lifeguard activity in a facility where visitations regularly exceed 6,000 patrons per week. From a management perspective observations will be made on the formative development of the risk management plan and its linkage to research and operational experience.



## PRESENTATION PAPER

### Background

The Darwin Waterfront site is approximately 27 hectares of land in close proximity to the Darwin CBD. The site is located below a natural escarpment which creates a physical separation between the site and Darwin CBD. The area provides a family-friendly, tourist-friendly place of assembly and leisure – for both day and night. Aquatic facilities operate during specified daylight hours with a lifeguard service in place.

Development is planned over 15 years, with Stage One now largely complete and including:

- Community leisure and recreational facilities, of which the Wave Lagoon, Recreation Lagoon and adjacent areas are a part.
- Darwin Convention Centre comprising seating for 1,500 people, and with 4000m<sup>2</sup> of exhibition space.
- Commercial developments including a hotel, tavern, restaurants, various retail outlets and residential accommodation.

The physical profile of the Wave Lagoon is summarised as:

- Chlorinated potable water
- Area 4,000m<sup>2</sup>
- Wading area: maximum depth 200mm
- Wading area to distant end of main lagoon: Gradient = 1:15; Depth = 1m
- Next section: Gradient = 1:34; Depth = 1.25m
- Next section: Gradient = 1:100; Depth = 1.5m
- Wall/end section: Gradient = 1:4; Depth = 1.5m to 2m
- Maximum wave height that can be generated = 1.5m

The Recreation Lagoon is not connected to the Wave Lagoon. It is a closed body of seawater with a relatively constant water level. The depth of this area ranges from zero at the water's edge (beach) to 14 metres near the toe of the breakwater. The flushing system for the Recreation Lagoon is drawn directly from the sea. Water quality is maintained through a pumping system, the intake pipes of which have been covered with a fine mesh of 425 microns to prevent the ingress of harmful marine creatures, especially jellyfish.

### Methods

The management of aquatic recreational facilities is based on risk assessment. An understanding of the use of the facility is a core principle.

The National Health and Medical Research Council (NH&MRC) Guidelines for Managing Risk in Recreational Water provide guidance and definitions widely applied in the aquatic recreation sector.

The SLSA Coastal Public Safety Risk Assessment process was applied, referencing the initial 'desktop' Aquatic Risk and Safety Report.

The specifications of AS/NZS 4801:2001 and AS/NZS 4360:2004 were applied.

It was relatively easy to identify physical and environmental factors influencing safety at the Darwin Wave Lagoon however it was recognised that the real challenge was to identify and mitigate the human factors that had the potential to impede lifeguard performance and therefore affect public safety.

### Results / Evaluation

Prevention, Recognition, Rescue. The Risk & Safety Review has helped create a very proactive lifeguard service. The lifeguards have developed excellent scanning procedures – the foundation of lifesaving surveillance and preventions systems.

This is evidenced by examining the period 1 May 2009 to 31 December 2009 when over 140,000 patrons visited the Wave Lagoon with lifeguards recording 316 rescues and 5,734 preventative actions. None of the rescues required further action.

### Discussion

Wave Lagoons put the hazard in the hands of the operator!

### Conclusion

The effectiveness of a Risk & Safety Review is largely determined by the people who implement it. Of paramount importance are the factors that influence human performance – training, combating fatigue and routine, developing high levels of perceptual skills and communication.



### Acknowledgements

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- Figleaf Pools
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## PRESENTATIONS:

# SURF BEACHES

## CHALLENGES, LIMITATIONS AND NEW APPROACHES FOR REDUCING RIP CURRENT DROWNINGS IN AUSTRALIA

**DR ROB BRANDER***Senior Lecturer, School of Biological, Earth and Environmental Sciences, University of New South Wales*

### ABSTRACT

Rip currents remain the greatest surf beach hazard in Australia and are the major factor contributing to our approximately 90 coastal drowning deaths each year. They also account for numerous "near-miss" drownings and are the cause of 90% of the more than 25,000 rescues conducted each year by lifeguards, lifesavers and surfers. Despite yearly fluctuations largely due to natural variability of seasonal weather, wave and beach morphological conditions, these statistics have not changed in more than a decade. It is clear then that in order to achieve the goal of a 50% or greater reduction in surf beach drowning deaths by the year 2020, approaches to existing and future rip current education must be re-examined and improved.

Based on advances in measurements of rip currents made on beaches around the world, there has recently been a significant shift in attitude amongst many coastal rip current scientists that challenges the traditional paradigms of rip current form and behaviour. The new belief is that the classic model of rip current flow, which most rip education programs are presently based on, is the exception rather than the norm. This has major implications for the effectiveness of standard messages incorporated within rip education and awareness strategies in Australia both now and in the future.

This paper describes:

- i) the basic limitations and challenges facing rip current education;
- ii) recent advances in rip current science and their implications for rip education and awareness campaigns;
- iii) the key outcomes of the First International Rip Current Symposium held in Miami, USA in February 2010;
- iv) a review of effective rip related beach safety strategies used in other countries. In doing so, a simple blueprint for future strategies and behavioural research is presented that will ultimately assist in the reduction of surf drownings.

### PRESENTATION PAPER

#### Introduction

Rip currents are strong, narrow, seaward flowing currents that extend from close to the shoreline seaward on any beach with waves breaking across a wide area. An estimated 17,500 rips exist at any time on Australian beaches (Short, 2006).

Rips also represent the main surf hazard to beach swimmers and waders and while it is difficult to accurately estimate the number of drownings caused by rip currents, 90% of surf rescues are rip related (Short and Hogan, 1994). In a typical year where approximately 80 to 90 coastal drownings occur, it is reasonable to assume that 40 to 50 rip drownings occur each year.



Rip currents remain the greatest surf beach hazard in Australia and are the major factor contributing to our approximately 90 coastal drowning deaths each year.

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Aside from the emotional impact, the overall lifetime economic cost of a surf drowning likely exceeds \$500,000 (Sherker et al., 2008). Of concern, while drowning statistics vary from year to year due to natural variations of seasonal weather, wave and beach morphological conditions, there is little evidence to suggest that the incidence of rip drownings and rescues has decreased over the last decade.

In order for the Australian Water Safety Council (AWSC) to reach its goal of reducing surf related drownings by 50% or greater by 2020, approaches to existing and future rip current outreach strategies must be re-examined and improved. This paper provides a review of basic and recent scientific knowledge of rip currents of direct relevance to rip current education and awareness campaigns. It then describes some of the fundamental limitations and challenges facing beach safety practitioners and provides a blueprint for reducing rip current drownings through future outreach strategies.

### Rip Current Types and Behaviour

Scientific attention to rip currents through field measurements, laboratory, numerical modeling, and remote video monitoring has increased exponentially since the first studies of the 1920's resulting in a corresponding increase in our scientific understanding of the behaviour of rip currents. Of direct relevance to ocean bathers, we know that rip current flow is unsteady and while average flow speeds are on the order of 0.3-0.5 m/s, rips flow faster around low tide and exhibit short lived pulses where velocities can reach 2 m/s (Brander and Short, 2001). This approaches the speed of Olympic swimmers.

While a variety of types of rips exist, the most common in Australia are fixed rips which occupy deeper channels between shallower sand bars and typically occur during lower energy wave breaking conditions. These rips appear as dark, seemingly calm, gaps between areas of whitewater and can exist in the same location for days, weeks and even months. Topographic rips are fixed rips that occupy almost permanent channels adjacent to headlands and structures such as groynes or jetties. These rips may exist under both low and high energy wave conditions. Both types account for the vast majority of rips on Australian beaches. Anecdotal evidence from lifeguards and lifesavers around the world suggest that fixed rips are associated with a higher incidence of surf rescues as they occur during favourable swimming conditions and appear as 'safer' places to swim.

The traditional paradigm of rip current flow suggests that water transported to shore by breaking waves is carried along the shoreline via feeder currents which meet to form a narrow and offshore flowing rip-neck that flows through and exits the surf zone. Water (and unsuspecting bathers) are therefore carried significant distances offshore before the rip flow stops. Based on this paradigm, most rip education programs around the world promote the advice to 'swim parallel to the beach' to escape the rip current, which assumes an ability to swim and that the rip flows perpendicular to shore. However, recent field measurements of rip current flow behaviour on beaches in California, the UK and France observed that 80% of rip flow is rotational and does not leave the surf zone (MacMahan et al., 2010).

These findings challenge the traditional paradigm and imply that the best option for a swimmer caught in a rip is to 'stay afloat' as the rip flow circulation will bring them back to shallow water within minutes. While these findings have generated considerable debate, particularly in Australia, neither safety message is foolproof. Similarly, other common advice given to swimmers to "not panic" and "don't swim against the rip" are much easier advised than achieved by the average swimmer. The solution to the ongoing debate is to focus on the preventative message 'don't get in a rip current in the first place'.

### Public Knowledge of Rip Currents

While a strong disconnect exists between the scientific and public understanding of the rip current hazard, a recent study found that almost 80% of surveyed Australian beachgoers were aware of safety advice, such as 'swim parallel', on how to respond when caught in a rip (Williamson et al., 2010). Of significant concern, however, only 60% were able to identify a rip current when shown a picture of one. The fundamental knowledge gap therefore appears to be an inability of the public to identify rip currents. Furthermore, while research has focused primarily on the physical characteristics of rip currents, a paucity of information exists on the demographic, knowledge, social, and behavioural aspects of beachgoers who are caught in rips. Fundamental information regarding choice of swim location, who is getting rescued in rip currents and how people perceive and respond to getting caught in rips is virtually unknown.

### Suggestions for Future Rip Current Education

Effective rip current education strategies need to extend beyond slogans and catchphrases and target existing knowledge gaps with regards to rip currents. A rudimentary understanding of rip current behaviour and identification will provide knowledge that will motivate beachgoers to swim in appropriate locations (i.e. between the red and yellow beach flags) and not swim at inappropriate locations (unpatrolled beaches) and times (outside of patrol hours) in the presence of rip currents. Rips are very visual features and education strategies should focus on the most common type of rip that is also responsible for the vast majority of rescues and drownings: fixed rip currents which appear as darker gaps between areas of whitewater.

In order for the incidence of rip current drownings and rescues to be significantly reduced, basic knowledge of rip behaviour and identification must be developed in the following ways:

1. Rip current and surf safety education should be compulsory for primary and high schools and visual resources should be incorporated into the school curriculum. This is a longer term solution, but is the only way for rip current awareness to become ingrained in our culture;
2. The Australian adult population needs to be targeted using visual footage of rip currents shown as television public service announcements. The success of the UNSW TV YouTube rip education video "Don't Get Sucked in by the Rip" is an example of the efficacy of this approach;

3. It should be a federal requirement that international tourists and new migrants to Australia receive basic beach safety and rip current information in transit and upon arrival to Australia. All tourist venues (e.g. hotels, motels, caravan parks, hostels) in surf beach locations should display rip current awareness materials (brochures, fridge magnets, fold out cards etc.) in obvious locations. This method is widespread throughout the United States.
4. Informative signage targeting rip currents should be placed at every public beach access point in Australia similar to those used as part of the 'Break the Grip of the Rip' campaign in the United States. This signage should include visual images of local beach/rip conditions.

### Conclusions

The 1st International Rip Current Symposium was held in February 2010 in Miami, Florida and brought together a range of rip current scientists, beach safety practitioners and lifeguards. While no formal outcomes were achieved, it was clear that interest in rip current research remains high and a shift towards demographic and behavioural research is the next logical step towards understanding the rip current hazard. The effectiveness of existing rip education programs such as the United States' 'Break the Grip of the Rip' and Australia's "To escape a rip, swim parallel to the beach" must also be evaluated.

The opinion expressed in this paper is that future rip education must be informative and visual. Educating the public on even simple rip current knowledge using the methods described above is a significant challenge, but is not impossible. It will not be achieved, however, without significant funding resources and the collaboration between research organisations and beach safety practitioners.

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## WHAT ARE WE SELLING? THE KNOWLEDGE TO SAVE YOUR LIFE A PUBLIC EDUCATION STRATEGY FOR RIP CURRENTS

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### ABSTRACT

94 people drowned around the coastline of Australia in the 2008-09 season. Surf lifesavers and lifeguards conducted 13,600 rescues, stopped 446,900 people getting into trouble before they needed rescuing and provided first aid for 27,100 others<sup>1</sup>.

Currently the safest place to swim is between the red and yellow flags<sup>1</sup> hence SLSA's core message "Swim between the Flags". This message has strong recall among the Australian population with 96% of beachgoers indicating that they know that swimming between the flags is important<sup>2</sup>. It is also noted that 42% of beachgoers admitted to swimming outside the flags in 2007<sup>2</sup>, a rise from 35 per cent in 2004<sup>3</sup>.

Swimming and wading is the highest reported drowning activity within SLSA's drowning data. An overwhelming majority of the rescue and preventative actions arise from swimming at ocean beaches with up to 89% occurring in rips<sup>4</sup>. Given that only 3% of Australian beaches are patrolled by lifeguard and lifesaving services<sup>5</sup>, many Australians and overseas visitors will visit and swim at unpatrolled beaches thus requiring a key priority for any public safety strategy to be focused on rip awareness and education.

The complicated nature of rips such as the diversity of appearance, current direction and speed along with differing sea states may explain why public safety messages are complex to develop and that people continue to drown because of lack of knowledge of rips. Much has been written about the nature of rip currents and the technical aspects of such currents however little research has been conducted into the social science and human behaviour when interacting with rips. SLSA has spent the last 18 months working within a marketing and social science context to develop its latest strategy to educate all Australian about rips. The challenge in developing a campaign around this complex topic has required defining the degree of difficulty in communicating the different aspects of rip currents to the public, testing of appropriate messages and targeting various touch points in the communication process to the public.

This presentation will present the findings of this work, the messages chosen, the communications strategy and the resources developed as part of this nation-wide campaign. It will also discuss the difficulties faced by practitioners and researchers in the process in moving a primary message from one of prevention to one of self rescue and the strategy dilemma in finding one key message which may have the greatest good for the greatest number.

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## PRESENTATION PAPER

### The drowning issue

94 people died by drowning around the coastline of Australia in the 2008-09 season. Surf lifesavers and lifeguards conducted 11,500 rescues, stopped 460,000 people getting into trouble before they needed rescuing and provided first aid for 41,000 others<sup>1</sup>.

People are drowning in rip currents. In fact 85 people, nearly all males, have lost their lives over the last five years after being caught in a rip current and not being able to survive. These people panic, they try to swim back to shore against the force of the rip current, they tire and they drown.

Swimming and wading is the most prominent activity prior to death by drowning according to SLISA's drowning data. An overwhelming majority of the rescue and preventative actions arise from swimming at ocean beaches with up to 89% occurring in rips<sup>4</sup>. Given that only 4% of Australian beaches are patrolled by lifeguard and lifesaving services<sup>5</sup>, many Australians and overseas visitors will visit and swim at unpatrolled beaches. As a consequence a key priority for any public aquatic safety strategy is rip awareness and education.

### Public safety messaging

Currently the best place to swim is between the red and yellow flags<sup>1</sup> hence SLISA's core message "swim between the red and yellow flags". This message has strong recall among the Australian population with 96% of beachgoers indicating that they know that swimming between the flags is important<sup>2</sup>. It is also noted that 42% of beachgoers admitted to swimming outside the flags in 2007<sup>2</sup>, a rise from 35% 2004<sup>3</sup>.

The complicated nature of rips such as the diversity of appearance, direction of the current and speed along with differing sea and beach states may explain why public safety messages are complex to develop and that people continue to drown because of lack of knowledge of rips. Much has been written about the nature of rip currents and the technical aspects of such currents however little research has been conducted into the social science and human behaviour when interacting with rips.

The more complex issues surrounding rips that may explain why people continue to drown because of them despite extensive education campaigns and warning signs are:

- Rips never look the same.
- People are aware of dangers of rips but can't necessarily identify them.
- Many know how to get out of a rip but often don't have the ability or are impaired by panic.
- Many swimmers never swim between the flags anyway due to peer influence and on a busy day it might be impossible to do so due to a perception of overcrowding.

This presents the following problems:

- How do you educate about the dangers of a rip current without scaring people away from the beach?
- Do you educate the public to understand a rip current?
- Do you teach people how to identify a rip current, and to stay away? Or how to get out of a rip current? Or even use a rip current for advantage; e.g. surfers?

It is generally agreed that the best preventative measure around rip current safety is to teach people what is a rip current and how to spot one. However, the multiple messages around these two questions preclude a simple and effective "headline" message being developed.

### Rip current education and awareness

Surf Life Saving Australia released Stage 1 of its first major public safety campaign on rip current awareness immediately prior to this summer. The campaign incorporated the headline "To escape a rip - swim parallel to the beach" along with the additional advice:

1. Do not panic
2. Do not try and swim against the rip current
3. If you are confident, swim parallel to the beach – often this is toward the breaking waves which can then assist you back to shore
4. If at any time you feel you are unable to reach the beach – raise your arm and call for assistance
5. Always stay calm

In its endeavour to produce a public safety rip current campaign SLISA has sought the advice of experts from around the world and within Australia. It has conducted a review of current messages used by international water safety organisations while also engaging the assistance of a marketing company to develop campaign messaging.

The challenge in developing a campaign around this complex topic has required defining the degree of difficulty in communicating the different aspects of rip currents to the public, testing of appropriate messages and targeting various touch points in the communication process to the public.

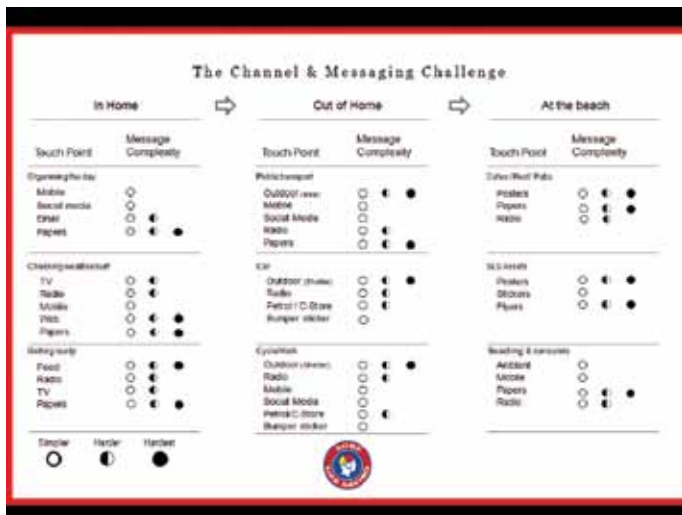


Figure 1. Channel and Messaging Challenge

Figure 1 highlights the challenges in communicating the different aspects of rip safety to the community. Much of the SLSA internal research also acknowledges that many people do not know how to spot a rip and research from the University of New South Wales in partnership with SLSA also acknowledges that many people when trying to identify the best place to swim identify the wrong location. This is not surprising considering that rip currents come in all shapes and sizes.

Stage 1 of SLSA Rip Awareness Campaign focused on changing behaviour of swimmers when in rip currents. Changing the behaviour from swimming against the rip current to swimming across the rip current and parallel to the beach.

Of the messages surveyed (n=200) to determine which statement best reflects the action of swimming out of the rip to shallower water 63% indicated that "Swim parallel to the beach" was easily understood followed by "Swim across the current", "Swim towards the breaking waves" and "swim horizontal to the beach" etc.



Rip current website – [www.ripcurrents.com.au](http://www.ripcurrents.com.au)

### Rip currents and the emerging debate on safety advice

At the 2010 International Rip Symposium held in Florida, USA during February the worlds experts were asked to share their thoughts on public safety messages for rip currents – unfortunately much of the research does not lead to any clear consensus and there seems to be little work on a developed message. Most agree that more work and research needs to be focused on this area.

A paper published in the Journal of Marine Geology, titled "Mean Lagrangian noted flow behavior on an open coast rip-channeled beach: A new perspective", MacMahan et al (2009) specifically deals with "surface current behavior for rip-channeled open coast beaches away from permanent topographic features". MacMahan et al. (2009) also classifies embayed beaches of 3-4 km length as small beaches and states that these small beaches are associated with topographic rips and mega rips.

In contrast Australian beaches have a relatively short average length (mean = 1.3km – 30% of the length of the shortest beach in the MacMahon paper), "implying that most Australian beaches are embayed and bound by topographic features such as headlands and reefs" <sup>4</sup>. Topographic rips are rip currents in which flow is partly controlled by a topographic feature, usually a solid structure such as a headland, reef, groyne or jetty.

Topographic rips occur wherever such a feature is present in a surf zone. Topographic rips tend to have a stronger more confined flow, a deeper channel and flow further seaward than beach rips <sup>4</sup>.

In fact Short (2007) states that there are a total of 3965 topographic rips operating on the Australian coast. That is 22.6% (out of a total of 17533) of all rips operating at any given time around Australia are topographic rips, which will not circulate. Short (2007) also goes on to say that "along Sydney's 36 ocean beaches, their 86 beach rips and 36 topographic rips operating under normal (breaker wave height,  $H_b=1.5$  m) conditions, are merged and replaced by 24 megarips when waves exceed 3 m." Megarips do not circulate. Megarips are large, with length scales of 1 km and more, they have strong flows (up to 3 ms<sup>-1</sup> and possibly more) <sup>4</sup>.

The remaining 13568 beach rips (rips that operate away from topographic features) will go through numerous stages in response to the ever changing conditions along the coast. At some stages in their life cycle beach rips will circulate and at other stages they will not.

Taking into consideration the nature of rips within an Australian context as outlined above and with the lack of any social and behavioural research it is suggested that more work is also required to confirm that the general advice of "stay calm and float" is required prior to it being used as a mainstream message for a rip campaign. This advice is also problematic when the swimmer is at an unpatrolled location. However the publication of new research and ongoing debate around rip messaging is seen as a positive process that will only strengthen our understanding and that of the public's about rip safety within Australia.

### Evaluation and next stages

A preliminary survey has been conducted indicating that overall the campaign achieved unaided awareness of 54%<sup>8</sup> (Do you recall seeing or hearing any advertising about rips or rip safety over summer?) with a higher rate amongst males 69%. An overwhelming majority of people surveyed are aware of the key courses of action with only 6% indicating they were unsure what to do if caught in a rip. Further evaluation of the campaign is now underway and an industry focus group will review stage 1 of the campaign while developing stage 2 of the campaign program.

SLSA is currently developing a research program the outputs from which will enable SLSA to better understand the behaviours of people caught in rip currents and reflect this understanding in community and schools education programs, in public awareness and education campaigns, and in lifesaver and lifeguard training.

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# A HOLISTIC APPROACH TO DROWNING PREVENTION

## THE SURF LIFE SAVING TOTAL SERVICE PLAN 2009-2011

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### ABSTRACT

94 people drowned around the coastline of Australia in the 2008-09 season. Surf lifesavers and lifeguards conducted 13,600 rescues, stopped 446,900 people getting into trouble before they needed rescuing and provided first aid for 27,100 others<sup>1</sup>.

The beach is the highest use area on the coast for public recreation, issues relating to public access, amenity and safety rank more highly in beach management than they may in the more general field of coastal management. Public safety has in the past tended to be the forgotten issue in coastal policy and management, although this is now starting to change; while environment protection and protection of property have traditionally received considerable attention in government policy and coastal zone management (Sheedy et. al. 1993).

Surf Life Saving Australia is Australia's major water safety and rescue authority and is the largest volunteer organisations of its kind in the country. At a national and state level over 140,000 members involved in 420 surf life saving services, including around 40,000 active patrolling lifesavers and 900 paid lifeguards.

Deaths by accidental drowning can usually be accounted for through a sequence of several factors known as the 'drowning chain'.

These are:

1. Lack of knowledge, disregard or misjudgement of the hazard
2. Uninformed, unprotected or unrestricted access to the hazard
3. Lack of supervision or surveillance
4. An inability to cope once in difficulty.

The SLSA total service plan focuses on strategies to reduce the incidents of drowning. The analysis has identified key intervention strategies at each of the drowning chain stages along with the identification of national blackspots, hotspots and service gaps across the spectrums of beach safety, population trends and coastal growth.



Intervention across numerous geographical locations and through many sections of the community is complex. A multi layered strategy that allows for a clear strategy of universal, selected (targeted) and individual interventions across sections of the drowning chain form the basis for the extension of SLSA lifesaving services and education programs at a national, state and local government level.

**References**

1. 2009 National Coastal Safety Report, Surf Life Saving Australia, Sydney, Australia 2009.

**PRESENTATION PAPER**

**Introduction**

Surf Life Saving Australia (SLSA) is Australia’s major water safety and rescue authority and is the largest volunteer organisation of its kind in the country. At a national and state level over 140,000 members involved in 420 surf life saving services, including around 40,000 active patrolling lifesavers and 900 paid lifeguards. During the 2008-2009 financial year, these services conducted 13,600 rescues, stopped 446,900 people getting into trouble before they needed rescuing and provided first aid for 27,100 others<sup>1</sup>. Despite these interventions, 94 people drowned around the coastline of Australia during the same period<sup>2</sup>.

The SLSA total service plan (TSP) focuses on strategies to reduce these incidents of drowning. The analysis has identified key intervention strategies at each of the drowning chain stages along with the identification of national black spots, hotspots and service gaps across the spectrums of beach safety, population trends and coastal growth. Intervention across numerous geographical locations and through many sections of the community is complex, but this multi layered strategy that allows for a clear strategy of universal, selected (targeted) and individual interventions forming the basis for the extension of SLSA lifesaving services and education programs at a national, state and local government level.

**Definitions<sup>3</sup>**

**Black spot:** An area with a high concentration of coastal/ocean incidents and a high probability/risk of ongoing reoccurrence.

**Hotspot:** An area with a low/medium concentration of coastal/ocean incidents combined with a high number of rescues/preventative actions.

**Trend:** A measurable consistency in relevant information/data that may have an impact on lifesaving resources in the currently or in the future.

**Service Gap:** An area identified as having an inadequate level of resources to meet public safety demands.

**Laying the foundations**

Before commencing, it was important to understand which approach could best address all of the quadrants of the drowning chain. While there is an obvious need to have a localised lifesaving plan for each coastal area, in recognising that resources are limited and needing to be as effective as possible with them, the chain was targeted per Table 1 and Figure 1.

Intervention:	Identified per:	Section(s) of Drowning Chain:
Universal & Selective (Targeted) Campaigns	Data Trends	<ul style="list-style-type: none"> <li>Lack of knowledge, disregard or misjudgment of the hazard</li> <li>An inability to cope once in difficulty</li> </ul>
Black spot Identification	Geographic Anomalies	<ul style="list-style-type: none"> <li>Uninformed, unprotected or unrestricted access to the hazard</li> <li>Lack of supervision or surveillance</li> </ul>

Table 1. Drowning chain interventions for TSP.

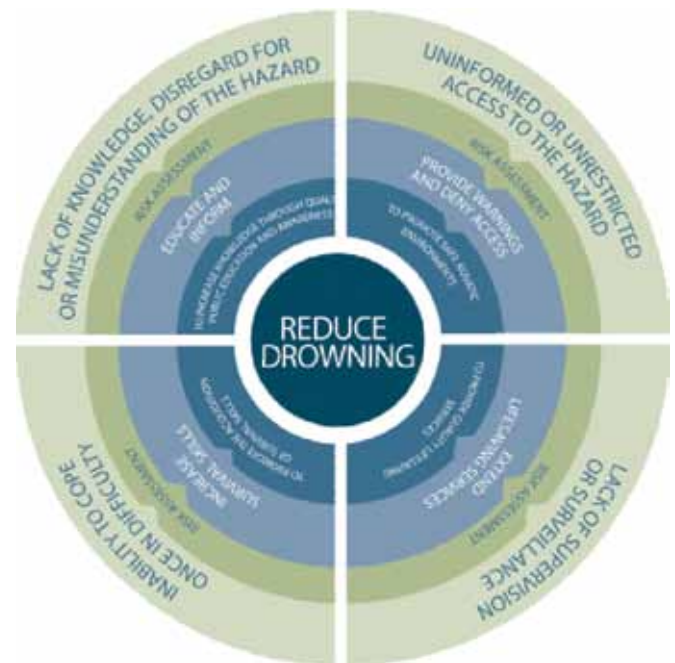


Figure 1. The Drowning Chain

**Assessing the scene and engaging stakeholders**

After establishing the underlying strategies for intervention, the data sets which could identify the trends and geographic black spots and hotspots were examined. These data sets are summarised in the Table 2.

Data Set	Intervention
National Coastal Safety Report Data 2004-2008	Identification of trends and black spots
Service Rescue, Prevention and First Aids	Identification of trends and black spots
Service Audit – Location & Type	Identification of Service Gaps and potential black spots
Tourism Australia Visitor Data	Identification of trends
Australian Bureau of Statistics (ABS) Census 2006	Identification of population black spots and hotspots

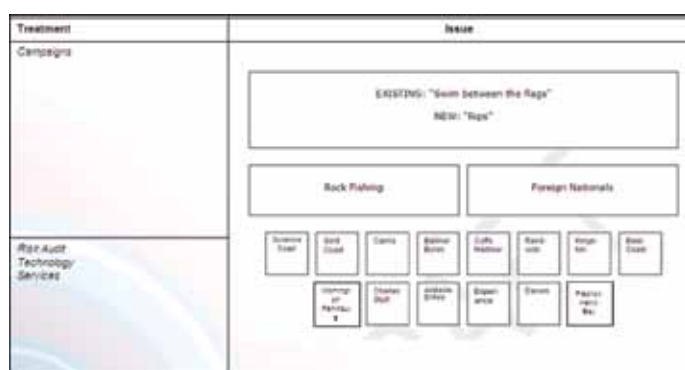
**Table 2.** Data sets and relationship to interventions

This analysis was coupled with engagement of SLS state/territory centres to factor in localised knowledge and an enhanced view of the micro environment. This included further insight into localised issues that may have resulted in particular trends and emergence of black spots and hotspots, and also to conduct an inventory of intervention measures already planned or in place including education programs and service expansions.

This opportunity was used to also outline what the TSP was initiated to achieve and the call to action that would result to address the findings and introduce relevant interventions.

### Implementing the plan and taking action

By using the multiple data sets and local guidance from internal stakeholders, SLSA was able to accurately assess the multiple risk areas and trends and prioritise them accordingly. The split is summarised in Figure 2.



**Figure 2.** Summary of the interventions (treatments) and priority areas and trends.

### Black spot targeting

The identified black spots are being targeted by broad and localised measures. The interventions have been implemented as a part of black spot intervention plans which were developed in consultation with state and territory centres. These measures include (but are not limited to):

- Coastal risk audits at high risk locations which:
  - establish the minimum acceptable level of hazards, risks, and potential injuries at the location,
  - providing economically sustainable options by which the above can be achieved considering both manned services and alternative options to 'manned' services,
  - whilst having regard to existing life saving services ensure distribution and resourcing of above services are rationalised;
  - provide staging plans for the above considering the environmental conditions, forecast settlement areas, beach access and usage;
  - review the status of aquatic safety and signage management;
  - evaluate the level of compliance or non-compliance with statutory or other appropriate standards
- Addressing service gaps and:
  - Improving state-wide operations infrastructure including communication networks, emergency beacons, callout systems,
  - Introducing specific services such as rescue water craft (RWCs) in selected locations,
  - Expanding of selected services in selected locations, e.g. adjustment of service hours and periods, enhancement of capability.

As outlined in figure 1, these measures address un-informed, unprotected or unrestricted access to the hazards and the potential lack of supervision or surveillance.

### Universal and selective campaigns

Key trends that were identified in the data are being addressed through the development and implementation of education initiatives and campaigns, which aim to increase awareness and change behaviours. As outlined in figure 2, these initiatives address the lack of knowledge, disregard or misjudgment of the hazards and risks involved and aim to enhance the ability of individuals to cope once in difficulty. For each of the campaigns:

- The public safety issue was identified and target audience assessed, e.g. the high risk activity/group,
- Primary and secondary messages were developed in consultation with internal and external stakeholders including industry and marketing specialists,
- The distribution channels were identified,
- An inventory of existing stakeholders was conducted and third part organisations were engaged,
- The campaigns were delivered according to implementation plans.

### Re-assessing and fine tuning

The black spot interventions and education initiatives are currently undergoing post-evaluation assessments to examine their effectiveness at broader and localised levels. Evidence shows that specific targeted black spot interventions have had a positive impact and have saved lives.

Assessment of the education initiatives indicate that they have set out what they achieved to do and increase awareness and influence behaviours, but it is clear that ongoing reinforcement is required. SLSA is continuing the promotion of these campaigns and consultation with internal and external stakeholders to ensure their longevity, relevance and continued improvement.

In recognition of a changing environment and trends, the TSP is undergoing a review this year to include any revised data sets and will also be expanded to include more through interrogation of data trends and introduce other data sets which address further levels of the injury pyramid (Figure 3) <sup>4</sup>.



Figure 3. The Injury Pyramid

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# 'SURF RESCUE'

## EMERGENCY RESPONSE SYSTEM

### A STRATEGY TO REDUCE COASTAL DROWNING DEATHS IN NSW

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#### ABSTRACT

In a national first, Surf Life Saving New South Wales (SLSNSW) has implemented a Surf Rescue Emergency Response System. This 24 hour state-wide tasking and coordination system aims to address the key coastal drowning issue of people swimming (and getting into difficulty) at unpatrolled beaches or after service hours by facilitating the efficient notification of surf rescue resources to an incident. The SLSA Coastal Safety Report (2009) has identified that of the 46 people who drowned on NSW beaches last year, 40 occurred at unpatrolled beaches or after patrol hours <sup>2</sup>. Swimmers caught in rip currents and rock fishermen swept from rocks featured as the main contributors to this toll. The annual coastal drowning figure has increased over the past decade and NSW continues to hold the highest coastal drowning toll in Australia.

Lifesaving services across the state are often the best and most well positioned resources to respond to a coastal emergency. However, historically the awareness of and communication to these resources by the key emergency services (Police / Ambulance) have been informal, inconsistent or non-existent. As a result, 'Surf Rescue' services were not being notified of incidents or significant delays were occurring. The Surf Rescue Emergency Response System provides a 24/7/365 'point of contact' (13SURF) for other emergency services to notify and task appropriate 'Surf Rescue' (professional and/or volunteer) resources to a coastal emergency anywhere in NSW (Note: 13SURF is not a public number, but an internal emergency service number. '000' continues to be promoted by SLS as the public emergency contact number).

SLSNSW delivers this system through a State coordinated team of qualified and experienced emergency service personnel who are rostered as State Duty Officers. SLSNSW manages the many hundreds of surf rescue contact numbers from its State Headquarters in Sydney to ensure the most up-to-date information is consistently held by the State Duty Officers on shift.



Resources available and activated by this system extend beyond just SLSNSW assets, and include:

- Australian Lifeguard Services (SLSNSW)
- Council Lifeguard Services (NSW)
- SLS Lifesaving Patrols (Clubs)
- SLS Emergency Callout Teams
- SLS Regional Duty Officers
- SLS Jet Ski Rescue Units
- SLS Offshore and Jet Rescue Boats
- SLS Helicopter Services

Since its inception in January 2008, 277<sup>3</sup> coastal emergency response requests have been put through the system with dozens of lives saved that would have otherwise been lost. An analysis of these incidents (tasking agents, incident types/outcomes etc) will be presented along with a number of case studies.

This initiative has and continues to involve the cooperation of a number of levels of government and peak body organisations, including:

- NSW Police (Marine Area Command, Police VKG's, PoAir, Local Police units)
- NSW Ambulance (Ambulance Communications)
- NSW Council Lifeguard Services
- Surf Life Saving Australia (SLSA)
- Surf Life Saving New South Wales (SLSNSW)
- Marine Rescue NSW
- State Emergency Service (SES)
- The NSW Government, including Department of Sport and Recreation
- The Australian Government, including the Department of Health and Ageing (DOHA)

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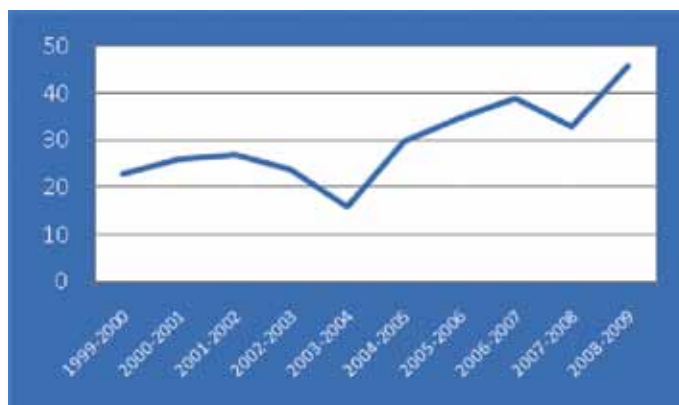
## PRESENTATION PAPER

### Background

Coastal drowning figures in NSW have continued to increase over the past decade, peaking in 2008-09 at 46 fatalities and accounting for 50% of the national figure. Since 1999, 299 people have lost their lives off NSW beaches/rock-shelves<sup>i</sup>.

Current drowning prevention strategies are succeeding in preventing many hundreds and thousands of additional fatalities each year (i.e. in 2008-09 over 6000 people were rescued by lifesavers and lifeguards in NSW<sup>ii</sup>), however opportunities exist to further address the drowning toll and enhance drowning prevention options.

### 1999-2009 Coastal Drowning Deaths (NSW)<sup>i</sup>



Of coastal drowning deaths in NSW over the past five years (2004-2009) the key underlining factors which contributed to these tragedies and the demographic/geographic trends around these incidents are clear and can be summarised as follows:

### Key causal factors (drowning)<sup>iii</sup>

- 1) Lack of knowledge, disregard or misjudgement of the hazard
- 2) Uninformed, unprotected or unrestricted access to the hazard
- 3) Lack of supervision or surveillance
- 4) Inability to cope once in difficulty

### NSW coastal drowning demographic/geographic trends<sup>i</sup>

Who is drowning?

- Males make up 92% of the coastal drowning figure
- Australian residents account for 79% of the coastal drowning figure

Where are people drowning?

- Incidents at unpatrolled beaches account for 85% of the coastal drowning figure
- 66% of coastal drowning deaths occur within 5km of an existing surf rescue facility/service

Why are people drowning?

- Swimming and being caught in rip currents, with no immediate assistance available, accounts for 43% of the coastal drowning figure
- Rock-fishing and being swept/falling from rocks/cliffs is the second highest contributing activity at 18.5% of the coastal drowning figure

The common factors which have contributed to these tragedies are clear and allow for specific targeted prevention strategies. The 'Emergency Response System (ERS)' is one such strategy and aims to address the trend of drowning incidents at unpatrolled beaches.

### Methods – Emergency Response System (ERS)

With the majority of fatalities occurring at unpatrolled locations but within the response area of surf rescue services, the 'Emergency Response System (ERS)' aims to

reduce drowning deaths at unpatrolled locations and/or times where no lifesaving service is present by improving the process of communication/tasking of surf rescue resources (lifesavers/lifeguards/rescue helicopters).

The program aligns with the Australian Water Safety Council strategy to address high risk locations and reduce drowning deaths by 50% by 2020<sup>iv</sup>.

### The targeted outcomes of the ERS are:

#### 1. Tasking/Communications Efficiency

Improving the speed (reducing time delays) of surf rescue assets being notified of an emergency from a 000 call to Police. Traditional methods of contacting surf rescue assets were based on unreliable and inconsistent planning/preparation/response/recovery processes at a local level.

#### 2. Coordination

Providing a consistent coordinated and safer response of surf rescue resources to an incident thus ensuring the closest and most appropriate resources respond, with supporting communications and interagency awareness of what/where/who/how.

#### 3. Response Effectiveness

Improvement in effectiveness/efficiency of the planning, preparation, response and recovery components of 'surf rescue' services within their state/regional/local emergency management plans.

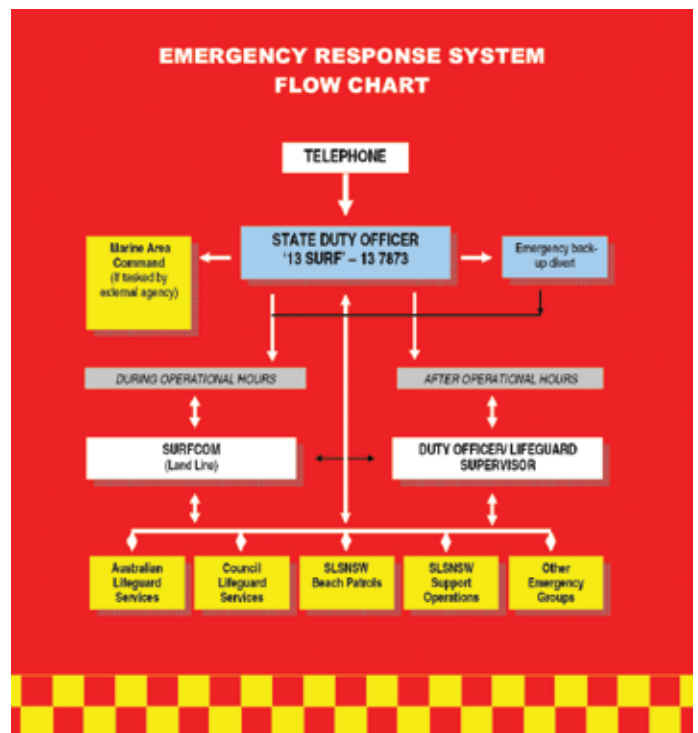
The ERS was established in January 2008 with the aim to deliver these requirements through:

- One point of contact (13SURF) for notification/tasking surf rescue services by emergency services (note: the ERS is not a publicly advertised or accessed system and its contact number is not promoted outside the emergency services. 000 remains the public emergency number.)
- 24/7/365 coverage of the ERS by a team of highly qualified/experienced Surf Life Saving State Duty Officers
- A consistent support team of professional staff at Surf Life Saving NSW - administering the ongoing operation of the ERS. Including an ongoing process of information/contact number quality assurance
- Standard Operating Procedures for state/regional/local emergency response within the ERS
- Best-practice technology to facilitate effective communication and coordination through the ERS
- A collaborative approach between NSW Police, Surf Life Saving (volunteer/paid lifeguards) and Council Lifeguard Services in delivering the system and working to consistently improve it

#### Example – Standard Activation of the System

- 1) 000 call made to Police by member of the public, reporting an emergency.
- 2) Police Communications Centre calls the ERS on its dedicated emergency number (13SURF).
- 3) 13SURF is answered by the State Duty Officer on-shift (24/7), if this officer is on another call it auto-diverts to the backup State Duty Officer on-shift.

- 4) Police Communications pass on the details of the emergency to the State Duty Officer.
- 5) State Duty Officer contacts the most appropriate surf rescue resource/s (depending on location/day/time) using their PDA phone and contacts manual for the entire state. This may be a single resource or combination of lifesavers/lifeguards and a rescue helicopter.
- 6) State Duty Officer provides any updates and monitors emergency to its conclusion.
- 7) State Duty Officer completes a 'Request for Assistance Form' and logs the incident with the Surf Life Saving NSW Headquarters.



#### Results

368 emergency notifications/taskings<sup>v</sup> have been made through the Emergency Response System since January 2008. Dozens of lives have been saved that would otherwise have been lost - in particular at isolated/unpatrolled locations where the rapid response of services was a fundamental element in averting what is a time-critical issue (drowning).

Inter-agency links/partnerships have been significantly strengthened between Surf Rescue Services (Surf Life Saving Volunteer and Lifeguard Services, Council Lifeguard Services, Rescue Helicopter Services) and also with the major emergency services / government agencies (Police, Fire, Ambulance, SES). The strengthening of these relationships around joint-operations will have ongoing drowning prevention benefits.

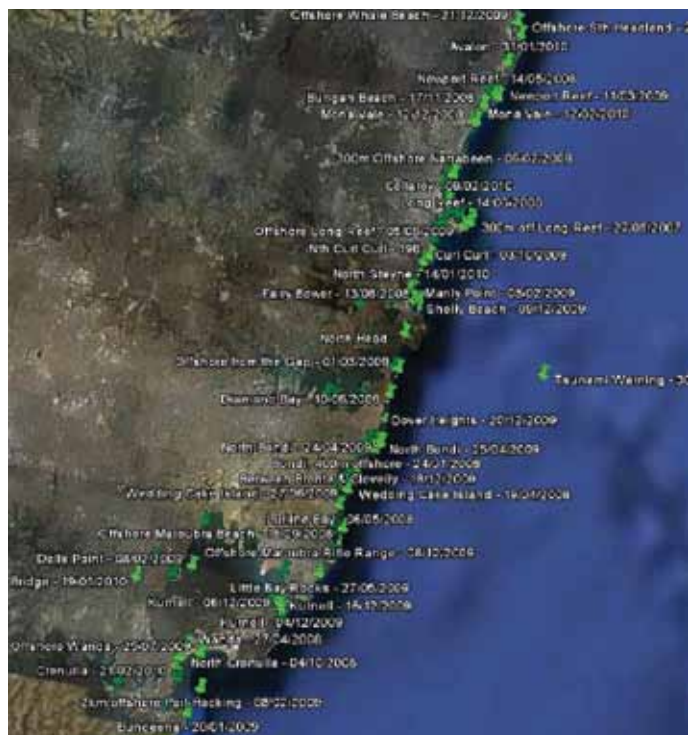
The potential 'value-add' of surf rescue services in natural disaster events (i.e. tsunami) has also been strengthened by the ERS. The recent tsunami warning on 28/2/10 saw the SES able to disseminate key information to all front-line surf rescue services through a single point of contact (ERS).

This facilitated the rapid closure of beaches state-wide and the effective reopening of them later in the afternoon. The impact of the ERS on clear messaging to front-line services and the mitigation of 'mixed-messages' should also be recognised, particularly given the impact of the media on accurate information provision at times.

Use of the ERS by the authoritative body - NSW Police - has increased significantly over the past two years - from 92 notifications in 2008, to 220 in 2009 and already 56 in 2010. Supported by a concerted training/education campaign between Surf Life Saving NSW and Police Communications Centres, the level of engagement and support from NSW Police has been a core component to the success of the ERS.

The frequency and quantity of surf rescue emergencies taking place across the state has also come as an 'eye-opener' and justified the establishment of the ERS in helping address the drowning issue in NSW.

#### Sydney Region ERS Notifications/Taskings (Jan 08-Mar 10)



#### The Future

The future holds a number of challenges and opportunities for the Emergency Response System and drowning prevention in NSW.

Internally the team of six State Duty Officers (volunteers) who man and deliver the ERS will require ongoing support. The opportunities provided by advances in communication and information technology will also be embraced to strengthen the ERS. The implementation of a 'Surf Life Saving - State Operations Centre' will enhance the system and support the State Duty Officer role.

Continued partnership with Council Lifeguard Services and other marine safety organisations will also aid the ongoing success of the system.

Any initial concerns from a small minority around a Surf Life Saving administered system potentially 'taking-over their patch' is dissolving under greater alignment of procedure and trust built through the effective day-to-day operation of the system.

Politically, greater formal recognition of the ERS as a key component in coastal drowning prevention is required, to provide consistency / longevity to this important emergency service (surf rescue) initiative.

#### Acknowledgments

##### Delivery Partners

- NSW Police (Marine Area Command, Warilla/Sydney/Newcastle Communications Centres)
- SLSNSW Volunteer Clubs / Services (140 clubs/services)
- Australian Lifeguard Service - NSW (19 council/national park areas)
- Council Lifeguard Services (14 council areas)
- Westpac Lifesaver Rescue Helicopter (Sydney)
- NSW Ambulance Service (ASNSW)
- State Emergency Service (SES)
- Marine Rescue (NSW)

#### Funding Support

- Surf Life Saving programs and services are supported by the NSW Government through funding received by the Department of Sport and Recreation, Communities New South Wales
- Surf Life Saving programs and services are supported by the Australian Government through funding received from the department of Health and Ageing (DOHA)

#### References

- i SLSA Coastal Drowning Database / Coastal Safety Report 2008-2009
- ii SLSA 'Surfguard' Database
- iii International Lifesaving Federation (ILS) Drowning Chain
- iv Australian Water Safety Council Strategy 2008-2011
- v SLSNSW Emergency Response System RFA Database (Jan 08 – Mar 10)

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Drowning is the number one cause of death for children under five on Australian farms.

PRESENTATIONS:

## RURAL AND REMOTE

### AN UPDATE ON SECURE HOUSE YARDS FOR TODDLER DROWNING PREVENTION ON FARMS

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**EMILY HERDE**

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**ASSOCIATE PROFESSOR LYN FRAGAR**

*Australian Centre for Agricultural Health and Safety, University of Sydney*

#### ABSTRACT / PRESENTATION PAPER

##### Background/Introduction

Drowning is the number one cause of death for children under five on Australian farms. Promotion of securely fenced house yards or 'safe play areas' has been a priority of Farmsafe Australia's child safety on farms program and other rural water safety programs and agencies. Previous studies have indicated around 75% of farmers have a fenced house yard, but field day studies suggest less than half of these are secure enough to prevent a toddler from wandering away unnoticed into a farm dam. This study aims to determine the current extent and security of fenced house yards on NSW farms.

##### Methods

The New South Wales Population Health Survey is an ongoing telephone survey of state residents which includes indicators for change in health and safety behaviours. Each year, the survey samples approximately 1,500 people in each area health service with a private telephone (a total sample of 12,000). Households are contacted by trained interviewers using list assisted random digit dialling. Respondents are asked questions from modules on demographics, health behaviours, health status, and access to and satisfaction with health services, with additional question modules added periodically. The sample is weighted to enable calculation of prevalence estimates for the state population rather than for the respondents selected. For the 2008 survey, all participants were asked if they lived on a farm or rural property. Residents of farms were then asked (1) if they had a fenced house yard around their home and, (2) If yes, would the house yard fence prevent, or make it difficult for a young child under five years to wander away from the home unsupervised.

##### Results/Evaluation

At time of abstract submission, surveys have been conducted, but analysis of results is not yet available.

##### Discussion

Pending the findings, it is anticipated the results will provide valuable information on the current prevalence of safe play areas on farms in NSW, toward toddler drowning prevention. Regional differences will also be identifiable, to enable targeting of promotional programs by water safety advocates.

##### Conclusion

Promotion of securely fenced house yards or safe play areas on Australian farms continues to be a promotional priority for farm safety and water safety agencies. Information about the nature and prevalence of these will help to inform rural water safety programs.

##### Acknowledgements

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# KEEP WATCH

## TIMES OF CHANGE, CALLS FOR ACTION

**KATHERINE CELENZA**

*Health Promotion Officer, Royal Life Saving Society – Western Australia*

### ABSTRACT

#### Background/Introduction

Drowning is the second leading cause of preventable death in children aged less than five years, with one child drowning each week in Australia. While across Australia toddler drowning death rates increasing, Western Australia has seen a dramatic reduction over the past ten years.

Keep Watch has been run throughout Western Australia since 1996 and has been a successful education and awareness program. Western Australia has a unique setting and target group Keep Watch strategies have been continually revised and developed to ensure that they remain relevant to the needs of the target group.

#### Methods

The Keep Watch program accesses parents and carers of children under five years through a variety of strategies. However the most valuable approach has been the formation of new partnerships with other child safety and injury prevention organisations such as Playgroups WA, Kidsafe WA and the Farmsafe WA Alliance.

In 2006 Kidsafe WA, Royal Life Saving Society and the Farmsafe WA Alliance developed a partnership for the development and implementation of a series of child safety forums to be carried out throughout regional and remote areas of Western Australia. By working together we are able to reach a greater percentage of the target group and reinforce key child injury prevention messages and strategies.

Due to the decrease in toddler drowning incidence seen in WA the direction of the campaign needed to be modified. Parents are aware of toddler drowning risks but unsure of the steps they should take to prevent a tragedy from occurring. With high levels of awareness of toddler drowning prevention issues amongst the target group, it was clear that the program messages needed to focus on informing parents on how to prevent incidents from occurring. With this in mind the new Keep Watch television advertisement was created to show the devastation and aftermath which eventuates when a child has been lost to drowning while also addressing the key lifesaving messages promoted through Keep Watch.

#### Results/Evaluation

In Western Australia we have seen a significant decrease in the number of toddler drowning deaths over the past decade. Since 1999 Western Australia has achieved a 46% decrease in the number of toddler drowning deaths.

The child safety partnership with Kidsafe WA, Farmsafe WA Alliance and Royal Life Saving Society WA has travelled throughout five regions of Western Australia travelling a total distance of just over 9,000km visiting 20 regional towns speaking to over 60 professionals and 150 parents. After March 2010 the partnership will have completed child safety sessions in all six regions throughout Western Australia.

Through new strategies such as engaging with primary schools, summer competitions and resource development, we now distribute around 31,000 each year throughout Western Australia.

#### Discussion

Working with other child safety and injury prevention organisations has assisted with expanding the Keep Watch program. It has enabled us to access a greater proportion of our target group in a more efficient manner, particularly in regards to accessing regional and remote communities. These partnerships have also allowed both to further expand the resources and services provided through the Keep Watch program to include Indigenous specific messages.

Due to the success of the Keep Watch program, increased community awareness of toddler drowning prevention in Western Australia and changing needs of the target group, program messages and strategies will need to continue to be adapted.

#### Conclusion

The Keep Watch Program has contributed significantly to the reduction in toddler drowning deaths in Western Australia. With new parents entering the target group each year and changing priority areas, program strategies will need to be continually reviewed and developed. The biggest challenge that remains is to, maintain low toddler drowning rates in WA and work towards zero deaths.

#### Acknowledgements

- Melita Leeds Kidsafe WA
- Farmsafe WA Alliance
- The Department of Health
- BHP Billiton - our Principal Community Partner
- 303 Advertising

### PRESENTATION PAPER

#### Background/Introduction

Drowning is the second leading cause of preventable death in children aged less than five years, with one child drowning each week in Australia. Of these incidents, two out of three children who drown are boys. On average for every drowning death it is estimated that approximately three children are admitted to hospital as a result of an immersion incident.

In addition, Indigenous Australians are over three times more likely to drown than other Australians. Indigenous males living in rural and remote areas are 1.9 times and females 1.5 times more likely to drown than Indigenous Australians from other areas.

Toddler drowning remains the number one priority target group of the National Water Safety Plan 2008 - 2011. While across Australia toddler drowning death rates have been increasing, Western Australia has seen a dramatic reduction during the past ten years.

The Keep Watch toddler drowning prevention campaign is a national program that was first introduced in Western Australia in 1996 in response to the high rate of toddler drowning deaths recorded within the state. The program looks to educate parents of young children of the aquatic risks and dangers in and around the home, and how to minimise the risk of drowning death.

It is important that the campaign is continually adapted to remain relevant and ensure that it meets the changing needs and expectation of the target group and the wider community. Keep Watch first began as an awareness raising campaign that focused on media advertising and providing toddler drowning prevention and water safety information to child health nurses. Over the years the campaign has developed a range of targeted strategies to promote the messages to a broader cross section of the community. These strategies have been developed through identifying priority areas specific to the Western Australian context and conducting extensive consultation with the target group.

Over its 15 years of implementation in Western Australia, Keep Watch has been a successful education and awareness program for Western Australian parents and has contributed to the reduction in toddler drowning death rates seen in WA.

## Methods

Since the Keep Watch program was first introduced into Western Australia, a number of new strategies and resources have been developed to suit the Western Australian context. These include:

### 1. Mass Media Campaign

A media campaign has been a significant part of the Keep Watch Toddler Drowning Prevention campaign since its inception in 1996. It has been a successful strategy to access a large proportion of the target group.

The national Keep Watch television advertisement 'Photos' had been running nearly as long as the program itself in Western Australia. Having been used for ten years it was identified that there was a need for a new advertisement that specifically addressed priority areas for our state. With significant improvements in target group awareness and knowledge it was time to update the advertisement to reflect the target group's needs. Previous research conducted with the target group has indicated that while the previous television advertisement has been successful in raising awareness of toddler drowning prevention issues, information is now needed on how to prevent toddler drowning deaths.

Extensive consultation with the target group revealed that the previous advertisement needed to be upgraded with a focus on how to prevent toddler drowning while still maintaining shock value. As a result a new Keep Watch television advert 'Pools' was created using funds received from the Department of Health and BHP Billiton in collaboration with 303 Advertising.

In addition we now also utilise radio advertising and event sponsorship such as the Great Australia Day Duck Pluck to further promote the campaign messages.

### 2. Education and Training

Community educational strategies have been expanded to include:

- Provision of heart beat club training sessions – as three hour first aid course specifically designed for parents with young children
- Distribution of information through home pool inspection programs
- Involvement in Playgroups WA – conducting presentations and providing activities and information at 'fun-days'
- Conducting regional child safety forums with other child injury prevention groups
- Community presentations provided upon request

Training in water safety and drowning prevention has been expanded to include all child health professionals including child health nurses, community health professionals, health promotion and child care staff. These strategies have become more targeted and specific to different occupations and regional priorities.

### 3. Child Injury Prevention Partnerships

The most valuable approach to accessing the greater portion of the target group has been the development of partnerships with other child safety and injury prevention organisations such as playgroups WA, Kidsafe WA, Farmsafe WA Alliance and the new partnership with Laurie Lawrence. In 2006 Kidsafe WA, Royal Life Saving Society WA and the Farmsafe WA Alliance developed a partnership for the development and implementation of a series of child safety forums to be carried out throughout regional and remote areas of Western Australia. By working together we are able to reach a greater percentage of the target group and reinforce key child injury prevention messages and strategies while reducing the cost per organisation.

The sessions are an opportunity for regional parents and carers of young children to access information regarding a range of child safety and injury prevention methods similar to those in the metro area. The sessions cover – safety at home, on the road, during play, around water and on the farm. In the past three years the partnership has travelled throughout six regions of Western Australia, travelling a total distance of over 10,000km, visiting 35 regional towns speaking to over 60 professionals and 200 parents.

In addition, we have recently formed a partnership with well known water safety advocate Laurie Lawrence to work towards further reducing toddler drowning deaths in WA. This has been a great way to reinforce the water familiarisation message that is promoted through the Keep Watch program.

### 4. Specific Target Demographics

Indigenous children are at a greater risk of drowning death, particularly in regional and remote areas. Western Australia has a large Indigenous population and therefore needed to ensure that our campaign messages and resources remained culturally relevant to these community groups.

In the past two years we have been working with other child injury prevention groups to develop a range of resources that specifically target Indigenous populations.

### Results

In Western Australia we have seen a significant decrease in the number of toddler drowning deaths over the past decade. Since 1999 Western Australia has achieved a 46% decrease in the number of toddler drowning deaths.

Evaluation of the program reveals that almost 70% of the target group surveyed are aware of the Keep Watch program and its key messages. Further, it is evident that the messages of the Keep Watch campaign are recognised and recalled by a large proportion of the target group. Knowledge of the meaning of supervision and an understanding of what constitutes an effective pool barrier have become much more specific since the early evaluations of the campaign. What is apparent from this campaign and the previous one is that the depth and detail of knowledge about the messages continues to improve.

### Discussion – Moving Forward

As the target group continues to grow and change, the Keep Watch campaign messages and strategies will need to adapt. The success of the partnerships formed with other child injury prevention organisations will be continued to ensure that regional and remote communities receive access to services and up-to-date information relevant for their community. We are also planning to expand the current range of Indigenous resources to other areas throughout Western Australia.

New strategies and resources to target the older end of the 0-5 year age group are also being developed to target kindergarten, pre-primaries and after school care programs.

### Conclusion

The Keep Watch program has contributed significantly to the reduction in toddler drowning deaths in Western Australia. With new parents entering the target group each year and changing priority areas, program strategies will need to be continually reviewed and developed. The biggest challenge that remains is to maintain low toddler drowning rates in WA while working towards zero deaths amongst this age group.

### Acknowledgements

- Melita Leeds, Kidsafe WA
- Farmsafe WA Alliance
- The Department of Health
- BHP Billiton - our Principal Community Partner
- 303 Advertising

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# TAMBO 2008

## OUTBACK INFANT AQUATIC SAFETY PROGRAM

ALINA GRAHAM

*Director, Qualified Aquatics*

### ABSTRACT

#### Background/Introduction

The Tambo Outback Infant Aquatic Safety Program was developed to address the water safety needs of a rural community without qualified swimming instructors and the towns growing number of children under 5 years of age.

Tambo, located on the Landsborough Highway approximately 1000km north west of Brisbane was settled in 1863 and is considered to be the oldest town in central Queensland. Tambo has a variety of aquatic environments within its surroundings including the Barcoo River, local dam and a local swimming pool complex that includes a 25 metre swimming pool and a Wading Pool, Kiosk and associated structures. They also have a local dam which is used for many local activities such as water skiing. Many of the properties on the outskirts have their own waterholes and dams. The purpose of the visit was to provide education to parents and practical applications on teaching water safety skills to their children as the town had no qualified swimming instructors. With funding obtained by the Tambo Education Centre and local council, my first visit in 2007 focused mainly on water safety skills within a pool environment.

In 2008 I extended the infant program to include a visit to the local dam as well as the training of two community members to gain AUSTSWIM qualifications.

The motivation behind this for me was my role as a swimming teacher should extend past the context of the pool environment. Often we get caught up in teaching water safety within the pool context and forget the children associate skills they learn to the context that they learnt them in. Just because a child can swim or has learnt safety skills in pools does not necessarily mean this skill will easily be transferred to a different environment or a different situation. The education of safe practices and the practicing of survival and rescue skills for parents and their children in other aquatic environments that are around them and familiar to them is just as important.

With the recent drowning events in Australia it has reinforced how valuable not only is it for children to learn how to swim but about educating both parents and children about the safety around all aquatic environments within their community.

We, as swimming teachers, together with parents and the community should be teaching and giving our children swimming and water safety skills through experience in a variety of aquatic environments. This should be coupled with the number one prevention of drowning - supervision!

**Methods**

The Tambo Outback Infant Aquatic Safety Program was delivered over 5 days with the morning session being the delivery of workshops that included:

- Water safety skills
- Relationship building
- Development in children
- Behaviour Management

The afternoon session were swimming lessons which were organised around age groups to implement what was learnt in the workshops as well as provide parents with a basic swimming lesson and skills they can use.

The second trip incorporated a trip to the dam using the same lesson plans performed in the pool. All parents were supplied a waterproof lesson plan and information from the workshops to refer to after the program was completed.

Both trips also incorporate swimming lesson for other local community members from 5 years+ including adults and working with the Tambo Swimming Club coaches.

**Results/Evaluation**

The first evaluation from the program occurred on my second trip with many of the previous parents and children returning to program. Not only was there a noticeable difference in the children’s swimming abilities but also in the proactive behaviour of the parents in ensuring they were bringing their children to the pool more often.

The second trip also incorporated a couple of other programs:

1. The training of two community members to obtain their AUSTSWIM qualifications - Teacher of Swimming and Water Safety, Teaching of Infant and Preschool Aquatics and Towards Competitive Strokes. I remain in contact with both these community members to assist with developing their teaching skills.
2. I also conducted a water safety session at the local dam for the Tambo State Primary and High School.
3. A return trip to assist with a swim camp for Tambo and other local towns children.

Unfortunately due to funding I was unable to make a 2009 trip, however in conjunction with RLSS Qld we are aiming to return in Nov 2010 to deliver more AUSTSWIM and RLSS programs with the availability.

There was one event that occurred during the program really highlighted the importance of teaching children to swim in other aquatic environments. One of the participants (child) was not comfortable or happy to participate in the swimming lessons at the pool, however this child was completely different once we went to the dam. Upon asking his mother where they live and how often her child had been to the pool the answer was they lived on a property with their own dam and he rarely had been to the town pool since being born. This highlighted that a dam was more familiar to him than a pool which brings the question of which aquatic environment would the child more likely to explore?

**Discussion**

The benefit of this program is that it enables parents of the community to take ownership of teaching their children to be safe in the water, particularly if they don’t have any community members qualified. Often rural towns have transient members which mean there is no stability in a qualified swimming instructor staying in the town.

This program can easily be replicated in any community that has a body of water that is safe to swim in. However the main challenge is the funding to get qualified instructors out to deliver this type of program initially as well as training other community members to continue the program.

Anyone wishing to implement similar programs should ensure that it can be continued once you leave and that the importance of teaching water safety skills in other aquatic environments is just as important.

**Conclusion**

As a teacher of swimming and water safety it is my obligation to teach children to be safe in the water. Much of my teaching, however, like every other teacher of swimming is conducted in a pool and often the same pool.

We need to start contextualising our lessons. If not more importantly setting up educational programs for parents to take their children to their local aquatic environments outside the pool and teach them about the hazards and differences of these environments to a pool. Along with developing basic water safety skills once in that environment. The teaching of water safety skills will never replace the importance of prevention of drowning through supervision of children no matter what age they are. A competent swimmer in a pool may not necessarily be a competent swimming in a different aquatic environment.

Let’s increase our children’s chances of survival in all types of aquatic environments through education and experience not just in a pool.



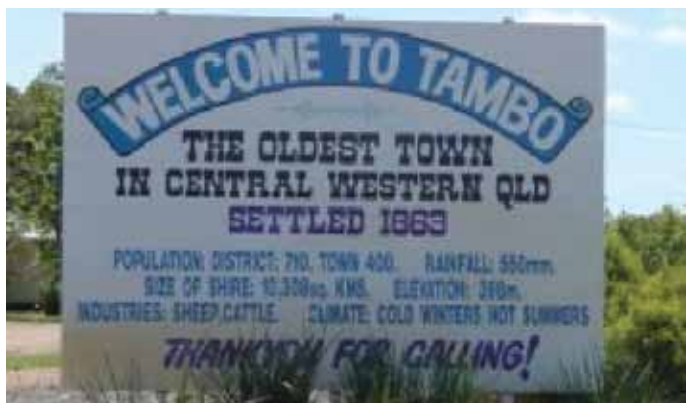
**Acknowledgements**

Funding was sourced through a Sport and Recreation Grant for the program with users pay for additional swimming lessons.

**Contact, links or resources include**

- Obtaining AUSTSWIM qualifications - Teacher of Swimming and Water Safety and Teacher of Infants and Preschoolers as well as having experience and qualifications with RLSS.
- Applying for funding through AUSTSWIM and RLSS to assist.
- Work with the local councils of the region.

## PRESENTATION PAPER



Tambo, located on the Landsborough Highway approximately 1000km north west of Brisbane was settled in 1863 and is considered to be the oldest town in central Queensland. Tambo has a variety of aquatic environments within its surroundings including the Barcoo River, local dam and a local swimming pool complex that includes a 25 metre swimming pool and a Wading Pool, Kiosk and associated structures. They also have a local dam which is used for many local activities such as water skiing. Many of the properties on the outskirts have their own waterholes and dams.

In December 2008 I revisited Tambo to continue an infant program that I conducted earlier in the year. My focus was slightly different due to some of my own learning and reflection of what I do as a swimming instructor.

I realised that my role as a swimming teacher should extend past the context of the pool environment. Often we get caught up in teaching water safety within the pool context and forget that children associate skills they learn to the context that they are learning them in. Just because a child can swim or has learnt safety skills in pools does not necessarily mean this skill will be transferred to a different environment or a different situation. The education of safe practices and the practicing of survival and rescue skills for parents and their children in other aquatic environments that are around them is extremely important.

### What I learnt from my trip to Tambo and including the visit to the dam

Through my continual studies in child development and how they learn about the world, it has reinforced that the learning of any skill is contextualized for that environment for everyone, not just children.

When we teach water safety skills in standard swimming lessons, it will only be in that context that they will easily apply those skills. We need to teach water safety skills in different contexts for them to utilise them appropriately. In essence we need to teach children (and adults) a multitude of skills in a multitude of different contexts so that they become flexible and adaptable to wider range of possible situation, in the effort to increase their chances of survival.

## What we do now?



More often than not our context is:

- the same pool
- the same area in the pool
- a constant water temperature
- with the same teacher
- with the same class members
- in a particular sequence in the lesson with a specific focus on swimming skills
- occasionally the program may alter with a safety week program once a term

This is great for the development of repetition in learning water safety and swimming skills however only for skills to be used in this context.

Now look at how children learn about the world. There are three sequences they follow:

1. They learn about the world first through movement
2. They learn how to put the world into a visual context by movement
3. They link the world and how they respond to it through what they have visual constructed through their experiences (i.e. movement).

When children are born they can see the world from an ocular perspective i.e. they have the ability to see but have not yet put the world into context to see. Much of their learning in the early years is through their other senses, in particular their vestibular system.

The vestibular system, contributes to our balance and our sense of spatial orientation. It is the sensory system that provides the dominant input about movement and equilibrioception (sense of balance). The vestibular system sends signals primarily to the neural structures that control our eye movements, and to the muscles that keep us upright.

Up until the age of 12 years, children are constantly learning and reorganising their visual world with a vast majority of learning occurring in the early years. The visual sense does not become the primary sense until around the age of three.

In short, children are spending most of their time learning how to move hence learning how to see ON LAND. In water we are over stimulating the vestibular system which also requires swimmers to be heavily reliant on their sensory system for information feedback to maintain balance and to move.

In understanding this I wanted to see if there were any differences between the transfer of skills from a pool to a dam. The following photos highlight the importance of contextualisation of water safety skills based on what children see and hence how they will respond.



Wading pool with beach entry      Tambo's local dam

Initially children will only make one link to what they see. What I call the A (sensory information) = B (skill) equation.

An example is when we are teaching swimmer to regain to standing position in a pool they can see the bottom of the pool and the bottom is solid which is using mainly the sensory information of vision and touch (A). Using this sensory information we want children to be able to safely regain the standing position using specific movement pattern – “knees to chest head up/back, find the bottom” sequence (B = skill).

**So the equation is:**

I can see the bottom of the pool and know it is solid therefore to stand up I perform the movement pattern “knees to chest head up/back, find the bottom”

They link the movement to the sensory information they receive.



**Underwater photo taken in Tambo Community Pools**

If that sensory information is removed or distorted i.e. murky water of a dam and a muddy soft footing (C) and they are not exposed to this new sensory information they may not have learnt the same skill (B) can be used when they received (C) therefore they may panic and not realised that they can touch the bottom of the dam.

I can't see the bottom of the pool and know it is slippery therefore to don't know what to do stand up so I panic.

With (B) being the important skill to learn we need to teach children to try this skill for a variety of different sensory information environments. B = A, C, D,...Z. The more variables we teach to each skill the more adaptable and flexible or swimmers are going to be.

Dam edge; activities in the dam- note the clarity of the water; underwater photo taken in Tambo local dam – it was focused on a swimmer.

We need to look at the sensory information we are providing to children and the movements we are linking with this information. We need to make sure that we teach children that sensory information may change and that A = B, C, D, E, F...Z as well as teaching them what to do if the result is not what they need to be safe. For example if they can't find the bottom they may need to kick closer to shore and then try again to stand up.

As teachers of swimming and water safety we need to start contextualising our lessons. If not more importantly setting up educational programs for communities to learn and experience their local aquatic environments outside the pool. They need to learn about the hazards and differences of these environments to a pool along with developing basic water safety skills in that environment.

With the recent drowning events in Australia it has reinforced how valuable is it for anyone to know their local aquatic environments and how to be safe in it. Let's increase our chances of survival in all types of aquatic environments through education and experience not just in a pool.

A competent swimmer in a pool may not necessarily be a competent swimming in a different aquatic environment.

.....  
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.....

# OVERCOMING ADVERSITY

## TEACHING SWIMMING AND WATER SAFETY IN REMOTE RURAL AREAS

CHRISTOPHER SMITH

*Australian Swimming Coaches and Teachers Association*

### ABSTRACT

#### Background/Introduction

- Aim was to conduct a 3 day Learn to Swim and Water Safety Educational clinic for families living in remote rural areas of QLD.
- It was developed due to the need and importance for this target group.
- Event was held in Julia Creek Swimming Pool Far North Western QLD.
- Target group was primary school aged children from remote rural areas of QLD.
- Participation exceeded our expectations, in total 56 children attended the 3 day clinic. Most families travelling 300 - 500 hundred kilometres each way to attend.
- We had a dream of Inviting Anna Bligh - Premier of QLD, to officially open the new pool and congratulate all participants.
- The Premier accepted and was present at both the opening of the pool and congratulated all children and their families for attending the LTS & Water Safety education 3 day event.

#### Methods

- Successful application for Head Funding agreement between the McKinlay Shire Council and the QLD Government Dept of Planning & Infrastructure allowed the 'go ahead' for the construction of a new pool in the NW region of outback QLD.
- Chris Smith was the Project Management of the Upgrade of the Julia Creek Swimming Pool.
- Tenders were invited for the construction of the 25m pool and interactive wet play park.
- Training of 3 Swim Australia TM Teachers of Swimming prior to the event.
- Training of Lifeguard & Pool deck supervisor prior to the event.
- Application to PCAP Priority Country Area Program (QLD Dept of Education) achieve funding for the operation of the 3 day event was successful.
- Timeframe was 7 months of planning and construction of the new facility, with a 3 day Learn to Swim and Water Safety educational event following completion of the facility.



#### Results/Evaluation

- Continual monitoring through McKinlay Shire Council ensured a quality product within expected contractual timeframes.
- The successful completion and handover of a new 25m pool, toddlers pool and 100 square metre wet play area for the McKinlay Shire Council.
- Ongoing evaluation of skills learnt at the event ensured participants were continually educated throughout the 3 days.
- Participants came away from the event having a greater awareness and understanding of Water Safety education.
- Many of the children live on outback pastoral stations hundreds and hundreds of kilometres apart, whom at the commencement of the program could not swim and had no real understanding of water safety, and to see these children having the skills and knowledge to be SAFER around water made all involved very proud of what they had achieved.

#### Discussion

- The program can continue on an annual basis providing funding is continual.
- 2010 will see further events at McKinlay Shire, although our aim is to target other remote rural shires throughout Australia spreading the message of Learning to Swim and Water Safety education.
- Throughout the development and implementation of the project it became evident of the great need and opportunities for these events to be run throughout remote rural communities.
- Main challenge came with the Project Management of the construction of the Julia Creek Swimming Pool. The town of Julia Creek is 980kms west of Townsville, so delivery of construction equipment such as concrete and tradespeople etc was a challenge. Other challenges although enjoyable and achievable was the funding process.

#### Conclusion

- Program summary will be an oral presentation and DVD presentation showcasing the stages of the project as well as the 3 day LTS & Water Safety event .....plus the Premier of QLD Anna Bligh!

#### Acknowledgements

- Qld Government Dept of Planning and Infrastructure.
- Qld Dept of Education - Priority Country Area Program.

## PRESENTATION PAPER

### Background/Introduction

Our aim was to conduct a 3 day Learn to Swim and Water Safety Educational clinic for families living in remote and rural areas of outback Queensland, the clinic was developed due to the need and importance for this target group of children of primary school age. The event was held in the outback Queensland town of Julia Creek situated 980 kilometres west of Townsville along the Flinders Highway which traverses west from Townsville to the Queensland – Northern Territory border. Participation exceeded our expectations, in total 56 children attended the 3 day clinic with many families travelling 300 - 500 hundred kilometres each way to attend. The clinic coincided with the completion of the new Julia Creek Swimming Pool and all involved had a dream of inviting The Honourable Anna Bligh - Premier of Qld, to officially open the new pool and congratulate all participants. The Premier accepted our invitation and was present at both the opening of the pool and congratulated all children and their families for attending the LTS & Water Safety education event.

### Methods

Successful application for a Head Funding agreement between the McKinlay Shire Council and the QLD Government Dept of Planning & Infrastructure allowed the 'go ahead' for the construction of a new pool in the NW region of outback Qld. Tenders were invited for the construction of the 25m pool and interactive wet play park. The training of 3 Swim Australia TM Teachers of Swimming along with the training of a Lifeguard and Pool deck supervisors prior to the event provided a team of dedicated and enthusiastic helpers. Application to PCAP Priority Country Area Program (QLD Dept of Education) so as to achieve funding for the operation of the 3 day event was successful and the planning begun.

Timeframe was 7 months of planning and construction of the new facility, with a 3 day Learn to Swim and Water Safety educational event following the final completion of the facility. Staff involved in the event were responsible for the delivery and implementation of swimming skills that ranged from fundamental learn to swim skills such as water familiarisation and buoyancy to stroke development drills for those students with some swimming competency. Water safety education was provided by discussion groups relating to each student's very different circumstances.

### Results/Evaluation

Continual monitoring through McKinlay Shire Council ensured a quality product within expected contractual timeframes, the successful completion and handover of a new 25m pool, toddlers pool and 100 square metre wet play area meant all was on track for the event. Ongoing evaluation of skills learnt at the event ensured participants were continually educated throughout the 3 days of Learn to Swim and water safety skills. Participants came away from the event having a greater awareness and understanding of Water Safety education in remote and rural areas. Many of the children live on outback pastoral stations hundreds and hundreds of kilometres apart, whom at the commencement of the program could not swim and had no real understanding of water safety, and to see these children having the skills and knowledge to be safer in, on and around water made all involved very proud of what they had achieved.

Throughout the development and implementation of the project it became evident of the great need and opportunities for these events to be run throughout remote and rural communities. All involved in the event hope that the program can continue on an annual basis providing funding is continual, 2010 will see further events within the McKinlay Shire, although our aim is to target other remote and rural shires throughout Australia spreading the message of Learning to Swim and Water Safety education.

### Acknowledgements

- Qld Government Dept of Planning and Infrastructure.
- Qld Dept of Education - Priority Country Area Program.
- McKinlay Shire Council.
- The many families who travelled from vast distances to attend....thankyou.

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There is no greater sacrifice than that made by a rescuer who throws it all on the line to rescue a drowning victim.

#### PRESENTATIONS:

# EDUCATION AND AWARENESS

## THE RESCUER WHO DROWNS

#### PROFESSOR JOHN PEARN

*National Medical Advisor, Royal Life Saving Society - Australia*

#### DR RICHARD FRANKLIN PhD

*National Manager Research and Health Promotion, Royal Life Saving Society - Australia*

### ABSTRACT

#### Background / Introduction

There is no greater sacrifice than that made by a rescuer who throws it all on the line to rescue a drowning victim. Professions such as 'lifesaver' or 'lifeguards', either salaried or volunteer are highly skilled at rescuing a drowning victim. However, many rescues are attempted by those with little or no training and subsequently the 'rescuer' tragically drowns in the rescue attempt. The challenge is to prevent the aquatic 'rescuer' from drowning. This paper examines the circumstances surrounding the drowning deaths of 'rescuers' in an Australian total population study.

#### Methods

We have identified all drowning deaths using data from the Australian Bureau of Statistics (ABS) Deaths Registrar for the period 1 July 1992 to 30 June 2002 and the National Coroners Information System (NCIS) in conjunction with the National Drowning Report for the period 1 July 2002 to 30 June 2007. Perusal of the details surround every such fatality has allowed us to identify an unselected complete subset of drowning incidents where a 'rescuer' drowned in attempting to effect a save.

#### Results

Over the period 1 July 2002 to 30 June 2007 we have identified 88 victims who drowned whilst attempting a rescue. Of these the majority (91%) were male, with a mean age of 36.5 years (range 8-71 years). Where data concerning the location of the aquatic incident was available (n=32) the site pattern was: beaches (37%); rivers (22%); ocean (19%). Other sites where the 'rescuer' drowned included harbor, bay, public swimming pool and dam. Perhaps as a reflection of aquatic participation, summer (37%) was the season of most 'rescuer' fatalities.

#### Discussion

The urge to leap into action to help someone in trouble, particularly a loved one, is an altruistic impulse. Such attempted rescues are appropriately a source of pride in Australia. Such courage and altruism is celebrated through the bestowal of medals and other community accolades. Sadly, an unknown percentage who attempt such a rescue do not return home. The drills and skills taught by lifesaving and water safety agencies provide an excellent skill set which enables a potential rescuer to ensure both that they place themselves only at minimum risk commensurate the circumstance; and that they have the experience to undertake an effective rescue.

#### Conclusion

'Rescuers' who drown comprise a well recognised but inadequately studied subset of those who drown. We postulate that the sole effective preventative stratagem to reduce the incidence of such tragic incidents is to empower all with the basic drills and skills of non-contact rescues when faced with the imperative to attempt to save a drowning child, family member, colleague or encountered victim.

## PRESENTATION PAPER

### Background / Introduction

Drowning remains a major cause of preventable death throughout the world. Worldwide, more than 410,000 victims drown annually<sup>(1)</sup>. Many victims drown alone, the event unwitnessed and the body extracted from the water in an unresuscitable state. In the case of infants who drown in the bathtub or backyard swimming pool the event is unwitnessed and always silent<sup>(2)</sup>. A subset of immersion incidents are witnessed. Such include individuals seen to be drowning on surfing beaches<sup>(3,4)</sup>, victims trapped in submerged vehicles<sup>(5)</sup> and would-be suicide victims to whose plight the police respond<sup>(6)</sup>. In these circumstances, altruistic but untrained bystanders often attempt a rescue. In the case where drowning victims are children, parents instinctively enter the water, often to their mortal risk.

There is no greater sacrifice than that made by a rescuer who throws it all on the line to rescue a drowning victim. Professions such as 'lifesaver' or 'lifeguards' either salaried or volunteer, are highly skilled at rescuing a drowning victim. However, many rescues are attempted by those with little or no training and subsequently the 'rescuer' tragically drowns in the rescue attempt. The challenge is to prevent the aquatic 'rescuer' from drowning.

The courage it takes to throw oneself into a life-threatening situation to help a drowning victim is enormous. Many such selfless acts are rightly praised<sup>(5)</sup> but such most remain unrewarded. The cost of such altruism is the significant risk of death of the intending rescuer, this later instinctively responding to the situation, often the horror of a drowning child<sup>(7)</sup>. To reduce this risk all bodies teaching aquatic lifesaving emphasise the importance of basic non-contact rescue skills.

The syndrome of 'fatal altruism', in the drowning context, involves courageous individuals who attempt to rescue children, related adults, strangers or animals. Individual reports of many 'rescuers' who drown feature regularly and prominently in newspaper reports in many countries<sup>(8-11)</sup> but this subject has not been addressed in the medical or scientific literature.

We report here an Australian total population study of such fatal altruism in the aquatic domain, encompassing the period 1 July 1992 to 30 June 2007, with recommendations for prevention.

### Methods

We have accessed two national (Australia) datasets which together comprise a total population consecutive unselected series of every case of immersion death over the most recent 15-year period (1992-2007) for which data is available. One set was the Australian Bureau of Statistics (ABS) database for the period 1 July 1992 to 30 June 2002 and the NCIS for the period 1 July 2002 to 30 June 2007, accessing the 'Accidental Drowning and Submersion' (add in the ICD9 codes)W65-W74) codes<sup>(12)</sup>. The second was the National Coroners Information System (NCIS), for the period 1 July 2002 to 30 June 2007<sup>(13)</sup>.

The same methods as described in Franklin et al<sup>(3)</sup> were used for this study, however an extra two year of coronial information was included.

From this combiner primary dataset, we have identified a subset of all drowning deaths which involve an attempted an in-water rescue. The ABS drowning series was interrogated for the subset 'Accident Drowning or Submersion – attempting a rescue'. In the case of the series drowning fatalities (2002-2007) identified by the ABS, we examined every individual drowning fatality and identified those victims who drowned while attempting an in-water rescue.

Data from identified cases were entered into a spreadsheet, and analysis was undertaken using SPSS for Windows, release 15 (SPSS Inc, Chicago, Ill, USA). Financial years (1 July–30 June) were used for analysis to allow examination of data for summer, Australia's peak drowning period.

### Limitations

While all attempts were made to ensure that all cases where included where the person drowned attempting a rescues in, the use of the NCIS some cases may be missed where the case is not closed (i.e. the Coroner has not concluded their investigation).

### Results

Over the period 1 July 2002 to 30 June 2007 we have identified 88 victims who drowned whilst attempting a rescue. Of these the majority (91%) were male, with a mean age of 36.5 years (range 8-71 years). Perhaps as a reflection of aquatic participation, summer (37%) was the season of most 'rescuer' fatalities.

Where data concerning the location of the aquatic incident was available (n=27) the site pattern was: beaches (37%); rivers (22%); ocean (19%). Other sites where the 'rescuer' drowned included harbor, bay, public swimming pool and dam.

Where data concerning the visitor status and relationships was available (n=27), a third (30%) of people were not visitors, 44% were intrastate visitors, and 19% were international visitors. The most common person to undertake a rescue was a parent or guardian (44%), followed by other relative (15%) and brother / sister / son / daughter (11%).

### Discussion

The urge to leap into action to help someone in trouble, particularly a loved one, is an altruistic impulse. Such attempted rescues are appropriately a source of pride in Australia. Such courage and altruism is celebrated through the bestowal of medals and other community accolades. Sadly a percentage (unknown) who attempt such a rescue do not return home. The drills and skills taught by lifesaving and water safety agencies provide an excellent skill set which enables a potential rescuer to ensure both that they place themselves only at minimum risk commensurate the circumstance; and that they have the experience to undertake an effective rescue.

A potential rescuer confronted by a person in difficulties in the water needs to make rapid decisions. Such are influenced by altruism, courage, relationship to the victim (e.g. parent or partner), situational or social bonding of victim or rescuer (e.g. boat crews)<sup>(14)</sup> and prior training. Drowning of a trained lifesaver or lifeguard is an extremely rare event, a comforting statistic in part influenced by the fact that such lifesavers do not allow water entry or swimming in a priori high-risk situations. Drowning involving the sequential death of the rescuer occurs on unpatrolled beaches, during floods or washaways.

Commonly the situation where the rescuer drowns is where they altruistically go to the aid of a relative (often a parent trying to save a child). While this impulse is not restricted to any age group males are far more likely than females to be involved. This imbalance in the sexes may be related to differences in supervision behaviours or perception of risk (e.g. males believe the risk of attempting the rescue is less than how females perceive it). While it is unclear on the lifesaving training these people have received, we postulate that those who have previously received a level of lifesaving training are less likely to place themselves at risk as well as being more likely to have the skills and drills to keep themselves and those in their care safe.

If a contact or non-contact rescue is attempted, consensus opinion suggests rapid extraction from the water is obviously required as quickly as possible with CPR to be commenced on a hard surface. If there is any delay, consensus opinion indicates that in-water rescue breathing if one is trained in such techniques<sup>(15)</sup>.

### Conclusion

'Rescuers' who drown comprise a well recognised but inadequately studied subset of those who drown.

We postulate that the sole effective preventative stratagem to reduce the incidence of such tragic incidents is to empower all with the basic drills and skills of non-contact rescues when faced with the imperative to attempt to save a drowning child, family member, colleague or encountered victim.

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# 30 YEARS OF AUSTRALIAN SWIM EDUCATION

**GORDON MALLET**

Chief Executive Officer, AUSTSWIM – The Australian Council for the Teaching of Swimming and Water Safety

## ABSTRACT/PRESENTATION PAPER

AUSTSWIM has been responsible for training swimming and water safety teachers in Australia for the past 30 years. During that time there has been an evolution of programs, operations and course development. In the last decade AUSTSWIM has concentrated on consolidating the efforts and achievements to ensure it remains at the forefront of the field and has clear plans and directions for the future.

The past decade has seen the organisation go through a series of strategic planning sessions which have clarified its objectives and directions and highlighted the need to concentrate on core business.

This has resulted in a much stronger, vibrant organisation, which is more focused on customer service and the development of the highest standards of resource development. This decision was rewarded with AUSTSWIM recently winning the TAFE and Vocational Education - Single Title Category in the 2009 Australian Education Publishing Awards for its new text Teaching Swimming and Water Safety. During this time of change, AUSTSWIM has learnt many lessons and inevitably modified its approach to change management.

As the CEO of AUSTSWIM, Gordon Mallett has had a key role in guiding the organisation through this change. His presentation will explain how the organisation has learnt from mistakes and evolved. This information will benefit organisations currently undertaking change or considering change in the near future.

Gordon Mallett, Chief Executive Officer  
AUSTSWIM – The Australian Council for the Teaching of Swimming and Water Safety

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# WATER SAFETY NEW ZEALAND AND PLUNKET BATH MAT PROJECT

**MATTHEW CLARIDGE**

General Manager, Water Safety New Zealand

## ABSTRACT

A recent evaluation of Infant and Preschool water safety initiatives recommended a move to direct supervision message placement (parents) and an awareness campaign regarding water familiarisation. WSNZ in partnership with Plunket will distribute bathmats to 90% of all mothers of new born babies in NZ over the next three years promoting the supervision of small children message.

An awareness campaign focussing on promoting time in the water with children for parents to support the development of water familiarisation and confidence skills will be managed also. The objective is to reduce the under fives drowning toll in New Zealand (10% of total toll) and to improve attitudes towards and ability of children to, learn to swim.

## PRESENTATION PAPER

Water Safety New Zealand (WSNZ) and Plunket are launching an exciting new water safety initiative aimed at creating better water safety awareness and ultimately reducing the drowning rate of young children in New Zealand. A contract has been signed between the two organisations and work has progressed to the point where the project is ready to roll out. Mats have been delivered to Plunket Areas throughout New Zealand and the project is about to be launched.

### This water safety project will...

Create greater awareness and educate parents and caregivers on the importance of water safety for young children, and ultimately reducing the drowning rate in children under five years of age. Plunket staff who were introduced to the project at the 2009 Rotorua conference were enthusiastic about the initiative.

### What the statistics tell us...

Drowning of children under five years of age in New Zealand continues to be high. In the last 10 years (2000-2009), 90 under 5's have drowned<sup>1</sup>. 58% of those under 5s drowned while at home, the majority being in a home pool or bath.

Research undertaken in 2005 into circumstances surrounding drowning in those under 25 in New Zealand (1980-2002)<sup>2</sup> (the research) concluded the following:

"Drowning, although reducing in incidence, is still a leading cause of death amongst NZ children and youth. Given the enormous social and economic cost of drowning and the preventable nature of those deaths, it is a problem worthy of our attention.

Policy is in place to reduce toddler death in home pools, but attention needs to be given to enforcing compliance with legislation and further research would be useful to evaluate the effectiveness of this. Parents need to be educated by doctors, allied health professionals and media about the importance of supervision of infants and young children while they are near any body of water, especially in the bathtub or swimming pools."

The research went onto make the following key points:

- All children under the age of three years should be constantly supervised in the bath by an adult
- Children under the age of five years should not be left to supervise younger children in the bath
- All home pools need to be fenced in regulation with the Fencing of Swimming Pools Act 1987, with attention to ongoing compliance. Gates should never be propped open.
- Adults need to closely supervise toddlers while they are near any body of water.

**The project**

1. Bath mat at 5 months
2. Sticker at 9 months
3. Poster promotion throughout project

**1. Bath mat at 5 month Well Child check**

A non-slip bath/shower mat will be provided to each family at the 5 month core check with the Plunket Nurse. This mat will have the message "Always supervise children around water always" "Tiakina nga tamariki ki te taha wai i nga wakatoa". Staff will also be able to verbally reinforce the water safety messages as they hand the mat over, removing it from the packaging and discussing the message, emphasising the need to watch children around water and keep a hand on baby at bath time. The mats are being distributed to the Plunket areas in March 2010 and will be reordered by areas as stocks need replenishing.

**Why provide the mat at the 5 month check?**

- At 5 months babies are beginning to sit up and a bathmat is a safety precaution to reduce slipping while the baby is sitting in the bath, particularly as parents are more likely to leave the baby unsupervised as they get to this age and onwards. The research states in relation to bath drowning deaths, children were usually left momentarily for example to finish other household tasks or answer the phone.
- 88% of all under 5 domestic and home pool drownings were children aged 2 or under (2000-2009), with 48% occurring at age 1 (12-23 months). Educating as children are approaching this high risk age is vital.

**2. Sticker at 9 month check**

Following up on the bath/shower mat parents will be provided with a reminder sticker at the next core check (9 months of age) for placement in their child's Well Child Tamariki Ora book.

**3. Poster**

An educational poster will be provided to all Plunket clinics reinforcing the message/s on the bathmat. The project is intended to run for a three year period with evaluation at the completion of each 12 month period.

**Additional resources**

Water Safety NZ has additional water safety resources relating to children under 5 available to order on their website - [www.watersafety.org.nz](http://www.watersafety.org.nz). Staff may wish to use these resources to provide clients with additional information.

**For all Plunket queries relating to the bath mat project please contact**

Sue Campbell, National Child Safety Advisor, Ph 03 471 9286 [sue.campbell@plunket.org.nz](mailto:sue.campbell@plunket.org.nz)

1. DrownBase™
2. Circumstances Surrounding Drowning in Those Under 25 in New Zealand (1980-2002). Child and Youth Mortality Review Committee, 2005.

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# AUSTSWIM TEACHER OF INFANT AND PRESCHOOL AQUATICS™

## WARREN CURNOW

*Development Coordinator, AUSTSWIM – The Australian Council for the Teaching of Swimming and Water Safety*

## ABSTRACT

AUSTSWIM will present a session on the AUSTSWIM Teacher of Infants and Preschool Aquatics course. This course provides teachers with competence to deliver safe and enjoyable aquatic programs for children between the age of 6 months and 48 months.

The course is nearing the end of an extensive review which will result in all course resources and delivery methods being significantly updated and improved. Due to be launched in the 1st half of 2010, the main features include:

- Fully revised course materials for Teachers and Presenters
- Flexible learning options that utilise a combination of e-learning and traditional methods, enabling the contact hours required to be reduced and also optimised.

AUSTSWIM aims to increase the number of accredited Teachers and will provide a snapshot of the enhancements that have been made to the course and discuss how the course will give our Teachers a great start when training as Teachers of Infant and Preschool Aquatics.

## PRESENTATION PAPER

### Background

#### AUSTSWIM's Training Programs

AUSTSWIM is the Australian Council for the Teaching of Swimming and Water Safety. Our quality training programs provide professional teachers for the aquatic industry.

AUSTSWIM's vision is that every Australian will be taught to swim by an accredited AUSTSWIM Teacher™ enabling them to safely enjoy aquatic environments and activities.

Over the past 30 years AUSTSWIM has gained an outstanding national and international reputation for the training of quality Teachers of Swimming and Water Safety.

AUSTSWIM has trained over 120 thousand teachers and over 18 thousand of these have completed its courses in the specialist areas of the teaching swimming and water safety to Infants, adults, people with a disability and competitive strokes.

## Development – AUSTSWIM Teacher of Infant and Preschool Aquatics™ course

The AUSTSWIM Teacher of Infant and Preschool Aquatics™ course is designed to provide teachers with competencies to deliver safe and enjoyable aquatic activity programs for children between the ages of 6 months and 48 months. The course is fully accredited and aligned with the National Community Recreation Industry Training Package.

Since its inception in the mid 1980's, the Infant and Preschool extension course has seen continual evolution of the course content and associated course resources.

Historically, the course has been delivered through traditional teaching methods, involving:

- A 2 day course with presenter lead theory and practical sessions
- Written theory assessments (e.g., exams, assignments)

### Introducing e-learning

AUSTSWIM are excited to introduce as a new initiative, an e-learning component to the AUSTSWIM Teacher of Infant and Preschool Aquatic™ course. The e-learning component is designed to remove a limited amount of theory information from the traditional method of delivery. Theoretical assessment is included within the e-learning material resulting in assessment tasks being completed progressively through the candidates learning.

As a result, the traditional presenter lead theory and practical sessions will now be able to be delivered in a single day.

### Course manual and associated resources

Also being released with the AUSTSWIM Teacher of Infant and Preschool Aquatics™ course are:

Manual: Fully revised and now in full colour, the manual contains more photos and helpful teacher tips.  
Presenter Kit: A comprehensive guide available to accredited Presenters, the kit has been fully revised to match all associated developments and resources.

### Topics covered within the AUSTSWIM Teacher of Infant and Preschool Aquatics™ course

- Philosophy of infant and preschool aquatics
  - Aims to provide candidates with the knowledge of the importance of conducting safe aquatic activity programs for children aged 6-48 months.
- Early childhood development
  - Aims to develop candidates' knowledge of the major developmental characteristics as infant and preschoolers progress through stages of growth and to use this knowledge to deliver sound aquatic programs as they progress through each stage.
- Teacher, parent and child relationships
  - Aims to develop a sound understanding of the importance of positive relationships and a means of developing such relationships between infants, parents and their teachers.





## PRESENTATIONS:

# HOME POOLS

## ELIMINATE CHILD DROWNING THIS SUMMER – HOME POOL SAFETY IN A BOX

CAITLIN VASICA

*Health Promotion Manager, Royal Life Saving Society – New South Wales*

### ABSTRACT

Home swimming pools remain the most common location for drowning death and injury in children under five. To help prevent toddlers from drowning this summer, Royal Life Saving and the NSW Government launched the Home Pool Safety in a Box to encourage more home pool owners to learn CPR.

Home Pool Safety in a Box provides a range of Keep Watch strategies to keep children safe around the pool including supervision, resuscitation, water familiarisation and pool fencing.

#### Learn CPR

This CPR Personal Learning Program allows you to learn the core skills of CPR in under 30 minutes using your own personal Mini-Anne CPR Manikin. The CPR Personal Learning Program uses a unique “watch and do” technique where you practice CPR on a personal manikin whilst watching these skills being taught and performed on a DVD.

#### Use the checklist

The checklist inside provides clear and useful information to help you check, fix and maintain your pool fence. The checklist includes the following major safety components:

- Swimming Pool Gate
- Swimming Pool Fence
- Around the Swimming Pool Fence
- Emergency Preparation
- Electricity
- Supervision
- Chemicals

#### Read the Keep Watch Home Pool Safety booklet

This booklet contains a range of informative and practical information to keep children safe around the water. Information sheets provide a range of topics including supervision techniques, helpful checklists and a resuscitation chart for your home.

#### Wear your Keep Watch ‘Designated Child Supervisor’ hat

This bright red and yellow broad brimmed hat can be worn by a responsible adult when supervising children in or around water. Wear the hat, wear the responsibility.

#### Acknowledgements

NSW Government



Home swimming pools remain the most common location for drowning death and injury in children under five.

Caitlin Vasica

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## PRESENTATION PAPER

In December 2008, a two year old toddler drowned in a backyard pool in Newcastle, NSW. This was the third backyard pool drowning in less than two weeks.

In January 2009, yet another backyard pool drowning. The little boy, from Minchinbury in Sydney’s west, was only fourteen months old. Police said the pool was fenced and that it was unclear as to how the toddler had managed to get into the pool area.

In February, the near drowning of a toddler was reported when a three year old fell into the family pool at Baulkham Hills in Sydney’s northwest. He was rushed to Westmead Children’s Hospital in a critical condition. His was the sixth reported drowning incident that month.

Then, only a few weeks later, more tragedy - a four year old girl drowned in the pool of a unit complex on the Gold Coast, and a two year old boy in a backyard pool at Eagleby, south of Brisbane.

With over 600,000 backyard swimming pools across Australia, swimming pool safety is a vital issue that affects the whole community. Over the past 10 years, there has been a significant reduction in the number of drowning and near-drowning in children. Several factors have contributed to this decrease, including community education programs alerting parents to the importance of supervising their children; legislation to place fences around backyard swimming pools, and efforts to teach CPR in the community.

However, home swimming pools still remain the most common location for drowning death and injury in children under five.

Being a pool owner comes with important safety responsibilities. We know there are many demands on people’s time, but if you have a pool you have a moral and legal obligation to maintain it properly.

To help prevent toddlers from drowning this summer, Royal Life Saving and the NSW Government launched the Home Pool Safety in a Box to encourage more home pool owners to learn CPR.

Home Pool Safety in a Box provides a range of Keep Watch strategies to keep children safe around the pool including supervision, resuscitation, water familiarisation and pool fencing.

### Learn CPR

Although community attitudes toward CPR are positive, theoretical knowledge of these skills are poor. A more uniform community effort is required to ensure this vital link in the chain of survival, when the primary prevention measures of supervision and fencing fail.

This CPR Personal Learning Program allows you to learn the core skills of CPR in under 30 minutes using your own personal Mini-Anne CPR Manikin. The CPR Personal Learning Program uses a unique “watch and do” technique where you practice CPR on a personal manikin whilst watching these skills being taught and performed on a DVD.

### Use the checklist

The checklist inside provides clear and useful information to help you check, fix and maintain your pool fence. The checklist includes the following major safety components:

- Swimming Pool Gate
- Swimming Pool Fence
- Around the Swimming Pool Fence
- Emergency Preparation
- Electricity
- Supervision
- Chemicals

### Read the Keep Watch Home Pool Safety booklet

This booklet contains a range of informative and practical information to keep children safe around the water. Information sheets provide a range of topics including supervision techniques, helpful checklists and a resuscitation chart for your home.

### Wear your Keep Watch ‘Designated Child Supervisor’ hat

This bright red and yellow broad brimmed hat can be worn by a responsible adult when supervising children in or around water. Wear the hat, wear the responsibility.

### Acknowledgements

NSW Government



# OVERVIEW OF THE QUEENSLAND GOVERNMENT'S SWIMMING POOL SAFETY REFORMS

## LANCE GLARE

Director Building Legislation and Standards Branch, Building Codes Queensland Division, Local Government and Planning Group, Department of Infrastructure and Planning, Queensland Government

## ABSTRACT

### Background/Introduction

The Queensland Government has recently conducted a comprehensive review of its swimming pool safety laws. A swimming pool safety review Committee was established to provide ideas for improving Queensland's swimming pool safety laws to reduce the immersion incidents of young children in swimming pools. The Committee provided a report to the Government with 23 recommendations and, in September 2009, the Government accepted those recommendations and adopted a two staged swimming pool safety strategy to deliver them.

### Methods

Stage one commenced on 1 December 2009 and applies to new residential outdoor swimming pools. It includes:

- adoption of the latest pool fencing and CPR signage standards;
- provisions to require temporary fencing for pools in prescribed circumstances;
- ensuring all new swimming pools undergo mandatory final inspections;
- better reporting of immersion incidents from Queensland police, and
- more than tripling the Queensland Government's spending on its 2009/2010 pool safety summer campaign.

Stage two is scheduled to take effect on 1 December 2010 and will apply to mostly existing pools. Some of the key stage two measures include:

- adoption of the latest pool fencing and CPR signage standards for all pools associated with class 1, 2, 3 or 4 buildings and caravan parks, regardless of the pool's age. Unless sold or leased first a five year phase in period will apply;
- the 5 year phase out of child resistant doors used as a barrier to existing swimming pools, unless sold or leased first;
- a mandatory point of sale and lease inspection system;

- a new license class of swimming pool inspectors to provide pool safety compliance certificates;
- a swimming pool register, and
- requiring Local Governments to perform a pool inspection after receiving a pool safety complaint or after receiving notification of an immersion incident (fatal or non-fatal), unless the fence does not need to be fenced under State law.

Stage two measures are currently undergoing further development and will require Government decision on the details (legislation, underpinning mechanisms etc) to meet the required implementation timeframe of 1 December 2010.

### Results/Evaluation

#### How have your monitored/evaluated the project/program/service?

The Government has approved the policy and the staged approach. Stage 1 commenced on 1 December 2009. Stage 2 is scheduled to commence on the first day of summer 2010 (1 December 2010). The Government approved policy includes mechanisms to improve data collection (including a pool register, improved reporting and distribution of adverse immersion event investigations) and future review and evaluation requirements. The pre 2010 work program includes the development and Government approval of relevant legislation and underpinning mechanisms (e.g. training. licensing of pool safety inspectors, a pool register that has integrity, forms and processes in the sale and lease process). Future reviews will be markedly assisted by the enhanced data initiatives.

#### What changes/benefits have been experienced by the target group from the project/program/service (Short-term and long term)?

Too soon yet to tell. Future review is expected to identify the extent to which the initiatives have achieved their aims and any adjustments that may be needed to improve outcomes. Previous initiatives in this area appear to have saved lives and reduced injuries and it is expected that this will also be the outcome of these initiatives.

#### Has the project/program/service achieved its aims/objectives?

See above. Previously there has been a significant immediate, but unfortunately temporary, drop in fatalities immediately following well publicised policy initiatives. This is expected to occur in relation to this initiative as well. The initiative contains mechanisms that will mainstream pool safety into existing well established mechanisms (especially lease and sale processes) with broad community impact. It is hoped that this will result in a sustainable improvement in the level of community pool safety awareness and reduce the "return to level" effect of previous initiatives.

#### Have there been any unexpected outcomes? What were they?

Too soon to tell. It is expected that the retrospective and broad impact aspect of the initiatives will generate a range of issues for resolution as the underpinning mechanisms to support the policy are developed over the next 12 months.

## Discussion

### How will the project/program/service and its benefits continue into the future?

See above. A key objective is to mainstream pool safety and to monitor and review outcomes, with necessary policy adjustments as required.

### Can the project/program/service be replicated with other groups and in other areas?

For such a broad and deep set of initiatives there will no doubt be experiences that may assist others to achieve similar outcomes.

### What did you and other stakeholders learn from the project/program/service?

Too soon to say in any final way.

### What were the main challenges in implementing the project/program/service? How did you meet these challenges or difficulties?

Too soon to say in any final way.

### Did anything unexpected happen? How did you handle this?

Yes, and it is expected that there will be such things in the next 12 months; however it is expected that a broad based consultation and awareness program, and a good plan will reduce surprises to a minimum and, in any event, identify and resolve them as early as possible.

### What would you do the same/differently if you implement such a project/program/service again?

Too soon to say. Will have some more clues by the time of the conference but not in any really useful way until at least 2011 and, more realistically, a couple of years after implementation.

### Any advice for others implementing a similar project/program/service?

Yes, and pre-conference experience with implementation will no doubt garner the experience necessary to generate learning's that may help others.

## Conclusion

There has been a lot of policy work in developing the pool safety policy to its current position, including significant and critical input and motivation from parents that have lost children, community concern ( especially as reflected in the media) and the active and dedicated involvement of key stakeholders in developing the broad initiatives approved by Government.

Phase 1 for new pools has commenced. Phase 2, which is the more difficult as it deals with all pools and has retrospective aspects, must be delivered by summer 2010. The next phase will include a lot of very detailed working through to ensure that the policy can be effectively delivered.

## Acknowledgements

- Acknowledge the very fine work of the Swimming Pool Safety Committee.
- Details of Committee Members can be provided on request.

- Also all the other Government and Community organisations that have provided submissions or otherwise assisted in developing the policy to date.

## PRESENTATION PAPER

In 2008-09, eight young children drowned in Queensland pools and it is estimated that 50 young children present to emergency departments each year due to immersion injuries, some of whom will suffer permanent brain damage. Since 1991, state laws have required outdoor swimming pools on residential land to be fenced, which has halved the number of child drownings in Queensland pools.

Currently, the fencing standard applicable in Queensland depends on the age of the pool. Twelve existing pool fencing standards (plus many local laws and thousands of exemptions) apply to swimming pools. Pool fencing legislation also places no obligation on the pool owner to upgrade pool fencing to the current standard, unless the fence is in substantial disrepair or has been removed, although pool owners must have a fence that complies with the applicable fencing standard and keep it in good condition.

In late 2008, the Honourable Anna Bligh MP, Premier announced the most comprehensive review of Queensland's swimming pool safety laws in nearly 20 years and the government is now implementing a two staged swimming pool safety improvement strategy. The review focused on reducing the number of drownings and serious immersion injuries in swimming pools involving children less than five years of age.

An integral part of the review process was the establishment of an expert swimming pool safety review committee to provide ideas for improving Queensland's swimming pool safety laws. The committee comprised of water safety individuals and organisations, government agencies and industry peak bodies. The committee's report underwent a six week consultation period and its 23 improvement ideas were supported by the community and industry. In September 2009, the government endorsed the committee's report and adopted a two staged swimming pool safety strategy.

### Major activities and achievements for pool safety

Stage one of the swimming pool safety strategy commenced on 1 December 2009 and applies to new residential outdoor swimming pools. It includes:

- adoption of the latest pool fencing and CPR signage standards;
- provisions to allow temporary fencing for pools in certain circumstances;
- ensuring all new swimming pools undergo mandatory final inspections; and
- better reporting of immersion incidents from Queensland police.

**Stage two** of the swimming pool safety strategy is scheduled to take effect on 1 December 2010 and will apply to mostly existing pools. Some of the key stage two measures include:

- adoption of the latest pool fencing and CPR signage standards for all pools associated with class 1, 2, 3 or 4 buildings and caravan parks, regardless of the pool's age. A five year phase in period will apply, unless the property is sold or leased first;
- a five year phase out of child resistant doors used as a barrier to existing swimming pools, unless the property is sold or leased first;
- a mandatory point of sale and lease inspection system;
- a new license class of swimming pool inspectors to provide pool safety compliance certificates;
- a swimming pool register, and
- requiring Local Governments to perform a pool inspection after receiving a pool safety complaint or after receiving notification of an immersion incident (fatal or non-fatal), unless the fence does not need to be fenced under state law.

#### Ongoing community consultation

Stage two measures are currently undergoing development and will require further government decision on the details (legislation, underpinning mechanisms etc) to meet the required implementation timeframe of 1 December 2010. For example, the Regulatory Impact Statement undertaken to gauge the costs for pool owners to upgrade to the one standard will be provided for community consultation.

Critical to the implementation of Queensland's new pool safety laws is the communication plan that not only informs various and diverse sectors, the community and pool owners of new legislative obligations and requirements for pool safety, but also delivers a 'get ready' message.

#### 2009/10 summer pool safety campaign

The Queensland Government has more than tripled its spending and expanded coverage of its summer pool safety campaign using a new 'my story' approach.

Government's **ABC** safety message of pool safety:

- **A**lways supervise your children near the pool.
- **B**egin swimming lessons for children early.
- **C**lose the pool gate and keep your fence maintained.

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# EFFECTIVENESS OF HOME POOL LEGISLATION IN WA

LAUREN NIMMO

Community Health Manager,  
Royal Life Saving Society – Western Australia

## ABSTRACT

### Background/Introduction

Each year too many young Western Australians lose their life due to drowning death. The real tragedy is that ALL of these incidents ARE preventable! Statistics show that the most common location where drowning occurs for children under five years of age is the home swimming pool.

Over the past ten years, Royal Life Saving WA has played a major role in ensuring that a high standard of swimming pool barrier legislation is in place in Western Australia to reduce toddler drowning death rates.

### Methods

Current legislation in Western Australia states that all home swimming pools must have a well maintained and appropriate barrier between the house and pool. In addition it is a requirement that all home swimming pools are inspected (started in 1991) to maintain compliance at least once every four years against the legislative standards.

In 1998, amendments were made to allow organisations other than government bodies to conduct home swimming pool barrier inspections.

This meant that Royal Life Saving was able to conduct inspections and at the same time provides an opportunity to deliver water safety and drowning prevention information directly to the target group. Since this legislation was passed, we have conducted over 150,000 home pool barrier inspections providing these households with exposure to the Keep Watch campaign messages.

### Results/Evaluation

In Western Australia we have seen a significant decrease in the number of toddler drowning deaths over the past decade. Since 1999 Western Australia has achieved a 46% decrease in the number of toddler drowning deaths.

Despite the increase in home pool ownership in Western Australia, we have seen a significant decrease in the number of toddler drowning deaths occurring in home swimming pools. Toddlers are now more likely to drown in other locations in and around the home such as bathtubs, dams, and fishponds. Since mandatory home pool barrier inspections were introduced in WA, there has been an improvement of almost 50% in the first assessment compliance rates amongst home pool owners in Western Australia. Overall 84% of pools within Western Australia are now compliant to our legislative requirements.

**Discussion**

The reduction in home swimming pool drowning deaths over the past decade has resulted in a shift of the most at-risk location for toddler drowning in Western Australia. This means that we now have new water safety focus areas and face new challenges to maintain the low number of drowning deaths for children under five years.

**Conclusion**

The introduction of home swimming pool legislation in Western Australia and the ongoing delivery of the Keep Watch public education campaign has contributed to a significant reduction in toddler drowning deaths and an increase in the number of safe home swimming pools in WA.

**PRESENTATION PAPER**

**Background Information**

Drowning is the leading cause of unintentional death amongst the 0-5 year old age group in Western Australia. Between 2000 and 2008, 53 children aged under the age of five drowned in Western Australia. The real tragedy is that all of these incidents are preventable!

Per head of population, children aged 0 – 5 years are more than twice as likely to drown as the general population. This age group makes up less than 10% of the population yet they represent around 20% of all drowning fatalities.

For children under five years of age the most common location of drowning incidents is the home swimming pool, particularly amongst children aged 3-5 years. Lack of an adequate barrier and/or poorly maintained barriers are a contributing factor in a high percentage of these incidents.

While direct and constant adult supervision is the most effective way to prevent toddler drowning death, the evidence is clear that a properly installed and maintained four sided fence with a self closing and latching gate offers one of the best safeguards for children.

We accept seat belts and speed limits to save lives on our roads – small children need every bit of protection that we can provide to prevent pool drowning deaths.

**Methods**

Current pool barrier legislation in Western Australia is based in the 1993 Australian Standards and states that:

- All swimming pools constructed pre 2001 are required to have either an isolation barrier or a barrier that includes self-closing doors/windows from the residence
- All swimming pools constructed after 2001 are required to have an isolation barrier

In addition it is a requirement in Western Australia that all home swimming pools are inspected (started in 1991) to maintain compliance at least once every four years against the legislative standards. These inspections cost home pool owners on average \$30-\$40 per inspection (capped at \$55). This cost covers maximum of three assessments to compliance every four years (\$15/year). In 1998, amendments were made to allow organisations other than government bodies to conduct home swimming pool barrier inspections.

This meant that Royal Life Saving was able to conduct inspections and at the same time provided an opportunity to deliver water safety and drowning prevention information directly to the target group. Since this legislation was passed, we have conducted over 150,000 home pool barrier inspections providing these households with exposure to the Keep Watch toddler drowning prevention campaign messages.

Recently Royal Life Saving conducted a research project examining the effectiveness of home pool barriers legislation and its impact on compliance and toddler drowning rates.

In the period 2004-2007 Royal Life Saving assessed over 20,000 home swimming pool barriers throughout Western Australia including metropolitan, rural, large and small communities.

Data from five Local Governments (1,000 pools) that represent a relatively broad cross-section of WA regions has been used. Audit assessment records detailing information regarding location/type of barrier, assessment number (1st, 2nd or 3rd assessment), compliance and barrier faults.

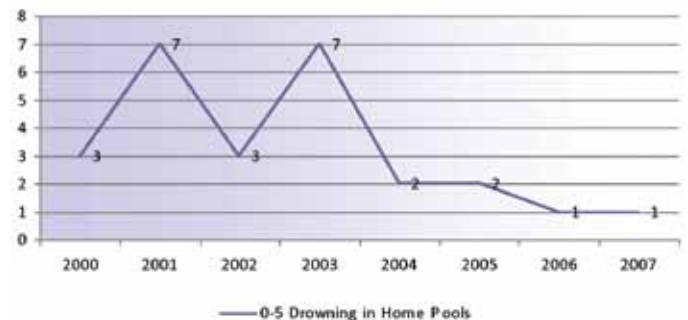
**Results**

In Western Australia we have seen a significant decrease in the number of toddler drowning deaths over the past decade. Since 1999 Western Australia has achieved a 46% decrease in the number of toddler drowning deaths. This reduction has out-performed the national average by almost 50%.

In addition over the past decade we have seen a shift in the most at-risk location for toddler drowning deaths in Western Australia which has resulted in new water safety focus areas.

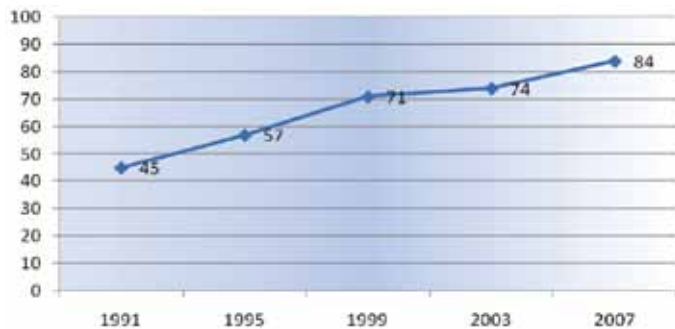
Western Australia has the third highest proportion of home swimming pools in the nation with almost 15.4% home pool ownership. This number has increased by 4.3% since 1994.

Despite the increase in home pool ownership in Western Australia, we have seen a significant decrease in the number of toddler drowning deaths occurring in home swimming pools. Toddlers are now more likely to drown in other locations in and around the home such as bathtubs, dams, and fishponds.



Since mandatory home pool barrier inspections were introduced in WA, there has been an improvement of almost 50% in the first assessment compliance rates amongst home pool owners in Western Australia. Overall 84% of pools within Western Australia are now compliant to our legislative requirements.

The initial (first) assessment of a pool barrier not only provides information about the barrier at that point in time it also provides an insight into the status of the barrier for the period between assessments which could have been as much as 4 years earlier.



The report also looked at the differences between compliance rates amongst the two types of pool barriers. On average 86% of Type 1 pool barriers complied at the first assessment whereas only 74% of Type 2 barriers complied at the time of first inspection.

### Discussion

Over the years there has been much discussion and debate regarding which type of pool barrier is the most effective in preventing drowning death. Some argue that with constant and direct adult supervision it doesn't matter which type of barrier is in place, as long as there is a well maintained barrier drowning death can be prevented.

Others argue that the drowning statistics indicate that young children are more likely to drown in a home swimming pool than any other locations, and one of the most common contributing factors is an ineffective barrier. Therefore a Type 1 isolation barrier is more reliable.

Our experiences and the results obtained through the pool barrier research conducted in Western Australia show that Type 1 isolation barriers were 12% more likely to be compliant at the first assessment than Type 2 barriers. – this means that more children are exposed to high risk locations as these barriers appear to not be as reliable and trouble free as once thought. Our focus now is not about making our pool barrier standards higher but about improving compliance rates and overall barrier maintenance for everyone in an effort to reduce the risk of drowning death.

There is also the issue of how well these home pool barriers are maintained between assessments. Current inspections only assess barriers at one point in time on a maximum four year basis. It is then the responsibility of the pool owner to ensure that these barriers are maintained at all times. Education is the key to addressing this issue.

There has been discussion as to whether having inspections conducted on a more regular basis would result in higher compliance and a reduction in drowning deaths. At this stage in Western Australia, the assessment process is well accepted by the community. More research is needed to determine whether more regular inspections would be more effective.

With increased availability and ownership of spas within Western Australia the issue of ensuring adequate barriers are maintained around these sites is becoming a major concern.

Under current legislation in Western Australia spas are required to have the same barriers as home pools – a fact that much of the community is unaware of. However unlike home pools, the consumer is responsible for acquiring a permit for their spa – not the building industry. This has resulted in many spas being unregistered with local councils and therefore not included in inspection programs.

This is an area that needs further collaboration between local government, industry and community members to ensure that these spas remain in line with current legislation and safe for use.

### Conclusion

The introduction of home swimming pool legislation in Western Australia and the ongoing delivery of the Keep Watch public education campaign has contributed to a significant reduction in toddler drowning deaths and an increase in the number of safe home swimming pools in WA.

### Lauren Nimmo

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# IMPLEMENTING HOME POOL SAFETY INTO AQUATIC LESSONS

TRACEY AYTON

*AquaBaby Coordinator, YMCA Cook and Phillip Park and Ian Thorpe Aquatic Centres*

## ABSTRACT

### Background/Introduction

- Program based at YMCA Cook and Phillip Park & Ian Thorpe Aquatic Centre
- Introduced as the under 5 drownings are increasing
- Wanted to heighten caregivers awareness of safety issues in and around their own home pool or when visiting a home with a pool
- Wanted to increase water safety education to help reduce the number of drownings and submersion based injuries
- Aim is to provide material and information to the 5,000 students parents and caregivers, who then potentially pass on the information through the community

### Methods

- Strong connection with AUSTSWIM, Royal Life Saving Society and Swim Australia
- Attend bi-monthly talks at the Birthing Rites Centre in Bondi and include home pool safety issues including baths and blow-up wading pools on a regular basis
- Implemented Home Pool Safety talk into our SwimSAFER weeks
- Parent Information Sheets are distributed
- Information provided includes supervision, barriers, swim lessons, floatation devices, how to react if you cannot find your child in a home that has a pool, etc
- When teaching a fall in and recovery exercise we always include the statement, "Your baby should never fall into a pool as you will always be watching them" and within arm's reach
- Educate and empower our Teachers so they are confident teaching and talking about home pool safety

### Results/Evaluation

- Slow process with some parents thinking our Safety week and information was not sufficient replacement to a structured lesson
- Constantly handing out information - parents now want their children to learn more about home pool safety
- Parents now approach staff and ask questions
- From feedback received we know we've raised awareness and lowered the "it can't happen to me" mentality

### Discussion

- Rated a success by staff and parents so plan is to continue coverage of home pool safety in the lessons and in hand-outs
- Future goal is to see all YMCA centres implementing
- Challenges were educating staff and caregivers - once the reasons were explained all were easy to convert
- Children and caregivers have much more awareness than 12 months ago when program implemented
- Happy to assist other swim schools replicate
- All swim schools should be implementing

### Conclusion

- Caregivers very enthusiastic for receiving knowledge on water and home pool safety
- Teachers are more educated and confident teaching pool and water safety

## PRESENTATION PAPER

As we are all well aware the number of drownings and submersion based injuries in home pools across Australia is rising and probably at an all time high. These are not just statistics but earth shattering events for families and communities. In the year 2008-2009 32 children under 5 died from drowning incidents, 60% of these were in a swimming pool of some description. There were many more children left with permanent illness and brain damage.

As the number of drowning incidents continued to rise, it was apparent that more was needed to be done during Aquatic Education Lessons.

At Cook and Phillip Park it was decided to upgrade our education of parents during lessons to include home pool education and also recreational education whilst using public pools.

This also transferred across to our Ian Thorpe Aquatic Centre and is now spreading NSW wide to all of our YMCA centres. This means that we can further educate large sectors of the community in Home Pool and Recreational Swimming and hope to reduce drowning statistics in under 5 year olds.

Steps to increase parental education include-

- Incorporating safety information re home pools in our newsletters.
- Holding our swimSAFER weeks once a term for one week and devoting the whole lesson to safety, including safety talks relevant to each age group.
- Giving out a Parental Information Sheet during swimSAFER weeks that included advice for home pools and other bodies of water around the house that may be a potential danger.
- Distribution stands of material available from Royal Life Saving, Kids Alive, SwimSAFER and AUSTSWIM with relevant information.
- Distribution of the Kids Alive Living with Water DVD.



- Purchasing pool watcher lanyards that are distributed free of charge to our families that have home pools.
- Purchasing the swimSAFER booklet that is distributed to all of our families in the YMCA NSW.
- Constant references during our AquaBaby lessons as to why and how the exercises being practised during the lesson relate to a home pool.
- Appropriate and consistent advice and education on flotation devices and adult supervision.
- Education for parents on when their child is visiting a home with a pool.
- Advice given for an emergency action plan in case of a situation and CPR.

In order for parental education and awareness to increase we also had to increase awareness and education in our Aquatic Educators. This was achieved by conducting workshops and training days to include relevant information. Simple things like when explaining our fall turn and recovery activity in our baby program we also added that this was teaching the infant “what to do if they fell into a pool” i.e. turn and surface. We also then added the line “this should not happen as you will be constantly watching and supervising your child”.

We had to empower our teachers enough that they felt comfortable approaching the parent outside of lesson time if they felt it appropriate.

The biggest issue that our teacher had was with “FLOTATION DEVICES”. So many times after teaching a whole lesson without flotation, a teacher would then watch as a carer took the child into the leisure pool with a back bubble and arm bands. This resulted in the child having no respect for their buoyancy and no awareness of their safety.

As Aquatic Educators within our 2 centres our mission is to talk to parents and give appropriate advice re flotation devices and their correct usage. Their tendency to cause inflated ability and less respect for the water and the fact that children often don't know the difference between having them on and off is explained at length. Also the fact that parents often use them as supervision for their children is discouraged.

### Community Service

As we continue to extend education to families we are also expanding to outside of the Aquatic Centre. The YMCA often holds talks at kindergartens in the hope that some of the education that we install in the children filters to the home environment. Our golden rule that we reinforce to children is “Never Swim Alone”.

Talks are also held on a regular basis at a one of the largest birthing Rites Centre in NSW. Courses in Aquatic Education are being held in our National Centre of Indigenous Excellence Redfern. Information is also extended to all of our Disability Groups and Schools.

### How is it progressing!

The program has been implemented over the past 18 months and at first it was slow progress with parents not wanting to waste a lesson on safety issues.

However as we have made more public with accurate information and true life stories of the tragedy involved with childhood drowning awareness has increased.

Feedback forms have indicated that parents and caregivers are wanting to be educated and craving more information.

Respect for our centres as Aquatic Educators has grown and we now have parents seeking us out for advice as to what to do in their home pool and when they go on holidays.

Whilst no responsibility can be taken by any Aquatic Educator as to what happens outside of the Centre, if they can further educate in anyway re the home scenarios surely a difference must be made. As teachers we must all be aware that the very basic safety issues that we take for granted are in fact lacking in different communities.

### Continue and Widen the Program

I would urge all Swim Schools to take the initiative and combine forces to include Home Pool Safety into their mainstream lesson plans.

By sending this information into the community as a whole we must surely raise awareness on drowning prevention.

Whilst we presume that parents and caregivers have the knowledge needed to enhance safety, especially if they own or rent a home pool, it is obvious that this is not the case.

By joining forces with the many organisations that are available to us as Aquatic Educators and Program Managers I believe that a difference can be made and we are all the key contributors to this.

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The 'Your Pool Your Responsibility' campaign has run in the Auckland region in conjunction with all seven Auckland territorial local authorities for the last seven years.

# YOUR POOL. YOUR RESPONSIBILITY.

## AUCKLAND REGIONAL POOL SAFETY

**TERESA STANLEY**  
*Business Manager, WaterSafe Auckland*

### ABSTRACT

The 'Your Pool Your Responsibility' campaign has run in the Auckland region in conjunction with all seven Auckland territorial local authorities for the last seven years. The campaign aims to reduce home pool drowning injuries in the under-five age group. The campaign promotes the message that pool owners need to keep young children safe by providing approved pool barriers that comply with the regulations set by the Fencing of Swimming Pools Act (1987). The campaign also reminds parents and caregivers to supervise children at all times in the pool, as well as encouraging pool owners to have secondary layers of protection in place for their pool.

Pre-school drowning reduced in Auckland region from six in 2002, three in 2003 and one in 2004. This has remained consistent for the last three years.

The University of Otago, Injury Prevention Research Unit, has shown the home pool and spa compliance rates for the Auckland region to be 15% above the national average. The Auckland region showed an 85.6% compliance rate compared to 70.5% for the whole of the country (Survey of local authorities regarding compliance with and enforcement of the Fencing of Swimming Pools Act (1987): A replication. Report to Water Safety New Zealand. Injury Prevention Research Unit, University of Otago January 2007).

### PRESENTATION PAPER

The 'Your Pool. Your Responsibility' campaign has run in the Auckland region in conjunction with all seven Auckland territorial local authorities for the last seven years. The campaign aims to reduce home pool drowning injuries in the under-five age group. The campaign promotes the message that pool owners need to keep young children safe by providing approved pool barriers that comply with the regulations set by the Fencing of Swimming Pools Act (1987). The campaign also reminds parents and caregivers to supervise children at all times in the pool, as well as encouraging pool owners to have secondary layers of protection in place for their pool.

Preschool drowning reduced in Auckland region from six in 2002, three in 2003 and one in 2004. This has remained consistent in recent years.

The Auckland Pool Safety Forum, facilitated by WaterSafe Auckland, was integral in developing the new standards released in December 2006, comprising six of the Standards Committee. These Standard NZ NZS 8500:2006 offer guidance for Councils in offering exemptions for non-complying home pools. These are also strongly promoted as they will eventually be referred to in the Fencing of Swimming Pools Act (1987). See [www.standards.co.nz](http://www.standards.co.nz) for details.

In conjunction with the Building Officials Industry of NZ (BOINZ), the Auckland Regional Pool Safety Forum has developed a new Pool Compliance Staff training programme. This was delivered by BOINZ in July to September 2006 with the intention of achieving greater consistency across the country to applying legislation and a better - informed public.

Each year, the campaign distributes 40,000 brochures and 2,000 posters to community centres, council buildings, public libraries, pool retailers, manufacturers, council mail outs and high profile events such as the Auckland Home Show or Parent and Child Show. Councils also encourage pool owners to look at their pool safety web pages.

The campaign encourages people to make sure their home pool fencing is compliant, but most importantly, encouraging correct supervision of children at all times around swimming and spa pools. The Forum is pleased with their achievements to date but cannot rest on its successes. Ongoing developments include compliant cost-effective flexible fencing to address the issue of safety around the ever increasing sale and purchase of portable pools (80 000 per annum nationwide) together with the development of an interactive web based pool simulation for increasing awareness of the pool safety issue.

The forum has promoted the development of compliant portable fencing for the increasing number of inflatable and portable pools. Educational resources have been developed and distributed around this issue.

CPR is promoted as a positive secondary layer of protection around home pool safety. A UV resistant plastic poster for Child CPR has been developed and distributed to home pool owners.

The University of Otago, Injury Prevention Research Unit, has shown the home pool and spa compliance rates for the Auckland region to be 15% above the national average. The Auckland region showed an 85.6% compliance rate compared to 70.5% for the whole of the country (Survey of local authorities regarding compliance with and enforcement of the Fencing of Swimming Pools Act (1987): A replication. Report to Water Safety New Zealand. Injury Prevention Research Unit, University of Otago January 2007).

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Trained surf lifesavers and lifeguards treat over 200 suspected spinal cord injuries in Australia each year.

PRESENTATIONS:

# RESEARCH

## ENSURING BEST PRACTICE SPINAL MANAGEMENT: A LITERATURE REVIEW

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### ABSTRACT

#### Background/Introduction

Trained surf lifesavers and lifeguards treat over 200 suspected spinal cord injuries in Australia each year. The minimisation of suspected spinal injury is crucial in the overall management of trauma patients. Secondary spinal injury due to inappropriate management may have tragic effects, therefore a number of different means of pre-hospital immobilisation have been developed. A scientific review of spinal management guidelines will ensure Life Saving organisations are at the forefront of training and delivery in this area. The aim of the study therefore was to determine current international best practice in pre-hospital spinal cord injury management.

#### Methods

A review of the literature in spinal injury management was conducted. The review followed a standardised protocol with relevant literature scored against set criteria by two independent reviewers, with any differences resolved by discussion.

#### Discussion/ Conclusion

Results from this literature review will provide Life Saving Organisations and the Australian Resuscitation Council with up to date scientific evidence for the guideline on Management of Suspected Spinal Injury. Results will also provide for the guideline to have greater emphasis on recommended management by: a) first responders such as lifesavers and lifeguards trained in the management of spinal injuries and b) the lay community first aid provider, including the use and application of the most practical spinal immobilisation devices. Focus will be on simple techniques and equipment, examining if any one provides better spinal protection and improved neurological outcome for the patient. It is possible that there is insufficient evidence to clearly support any particular technique. The best outcomes may result from the first aider providers having a high awareness for injury potential and simply handling the patient with the utmost of care.

### PRESENTATION PAPER

#### Background/Introduction

The aim of the study was to determine current international best practice in pre-hospital spinal cord injury management.

Trained surf lifesavers and lifeguards treat over 200 suspected spinal cord injuries each year. The minimisation of suspected spinal injury is crucial in the overall management of trauma patients.

Secondary spinal injury due to inappropriate management may have tragic effects, therefore a number of different means of pre-hospital immobilisation have been developed. A scientific review of spinal management guidelines will ensure Life Saving organisations are at the forefront of training and delivery in this area.

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### Methods

A review of the literature in spinal injury management was conducted. The review followed a standardised protocol with relevant literature scored against set criteria by two independent reviewers, with any differences resolved by discussion.

The literature review includes papers up to and including March 2010.

### Results/Evaluation

The literature review is still in progress, results will be available at the conference.

Results from this literature review will provide Life Saving Organisations and the Australian Resuscitation Council with up to date scientific evidence for the guideline on Management of Suspected Spinal Injury.

### Discussion

Results will also provide for the guideline to have greater emphasis on recommended management by: a) first responders such as lifesavers and lifeguards trained in the management of spinal injuries and b) the lay community first aid provider, including the use and application of the most practical spinal immobilisation devices. Focus will be on simple techniques and equipment, examining if any one provides better spinal protection and improved neurological outcome for the patient.

### Conclusion

It is possible that there is insufficient evidence to clearly support any particular technique. The best outcomes may result from the first aider providers having a high awareness for injury potential and simply handling the patient with the utmost of care.

# PRELIMINARY MORTALITY RESULTS

## FOR A 6-YEAR REVIEW OF DROWNING IN CHILDREN AND YOUNG PEOPLE 0-19 YEARS IN QUEENSLAND 2002-2008

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### DR KERRIANNE WATT PhD

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## ABSTRACT / PRESENTATION PAPER

### Background

This study will examine trends in fatal and nonfatal drowning episodes in children and adolescents. There is much literature on fatal drowning events however the incidence, mechanisms and consequences of nonfatal injuries remain unexplored. In addition, a defined population of survivors of drowning episodes has not been studied in any detail in Queensland.

The study aims to:

1. determine the morbidity and mortality associated with drowning incidents in children and adolescents (0-19 yrs) in Queensland from 2002-2008;
2. describe the injuries associated with nonfatal drowning incidents;
3. describe the circumstances of drowning incidents in order to determine risk factors.

### Methods

Retrospective data on fatal and nonfatal drowning events among children aged 0-19yrs will be obtained from multiple sources (Coroner's data, prehospital; emergency department; admitted patients). These data will be supplemented by Qld Injury Surveillance Unit, and the Queensland Trauma Registry. Data from these multiple portals will be linked.

### Results/Evaluation

Data are unavailable for analyses at the time of abstract submission. However, preliminary analyses on Coroner's data will be discussed at the conference.

### Discussion

This project will provide the most accurate estimate possible of the incidence of fatal and nonfatal drowning episodes among 0-19 year olds in QLD during 2002-2008, as well as information about risk factors for these events.

**Conclusion**

These data will provide the impetus for better informed policy, and will allow us to set priorities and identify points where interventions can be most effective.

**Acknowledgements**

- Ethics has been granted from (CHSD (RCH) Human Ethics Research Committee, UQ ethics committee, and Mater Ethics Committee (MHS).
- Drowning in children has been identified by the Queensland Government as a research priority and this project funded through the newly formed Queensland Injury Prevention Council (QIPC).
- We also wish to acknowledge the data sources Royal Life Saving Society - Australia, NCIS, Queensland Ambulance Service, Queensland Health (EDIS, QHAPDC), Queensland Injury Surveillance Unit.

# THE REAL EXTENT OF DROWNING RISK

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## ABSTRACT

### Introduction

Three decades ago, Schuman and colleagues (1977) used the visual metaphor of an iceberg whose underwater base contained a substantial layer of self-reported incidents that posed a serious threat to life so as to illustrate the true extent of the risk of drowning. This present study utilises the iceberg metaphor to explore the magnitude of that risk among New Zealand youth.

### Method

In addition to identifying fatal and non-fatal drowning incidents at the tip of the risk iceberg, surf rescue records and survey data on exposure to risk and incidence of a life-threatening submersion experience are used to describe the base of the iceberg. How youth were extricated from danger and subsequent effects on aquatic participation and water safety are also discussed.

### Results

Most youth had participated in some swimming (98%) or other aquatic activity (94%), and more than one third (37%) reported having had a life-threatening submersion experience. Significantly more females had experienced such an incident (females 41%, males 34%). For one third of youth (30%), the experience had made them more cautious around water, but most (66%) reported no aversive effect.

### Conclusions

The use of evidence of rescues and self-reported, life-threatening submersion incidents, coupled with evidence of a high risk of exposure, suggests that the true risk of drowning among youth may be substantially greater than that previously estimated from drowning statistics alone. The author discusses the value of the iceberg phenomenon as a visual metaphor of the risk of drowning and its implications on the education of young people.

## PRESENTATION PAPER

### Introduction

Fatal and non-fatal drowning statistics are often used in drowning prevention advocacy as indicators of the magnitude of the problem. Globally in 2004, 175,000 children aged under the age of 20 years drowned and, for children under the age of 14 years, WHO global annual estimates for non-fatal drowning range from two and three million (WHO/UNICEF 2008). However, the true extent of submersion incidents that may precipitate or constitute a drowning episode is probably much higher than estimates based on mortality and morbidity alone.

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More than 30 years ago, Schuman, Rowe, Glazer and Redding (1977) used the visual metaphor of an iceberg to explore just how many people are subjected to serious risk of drowning without necessarily experiencing submersion, aspiration or hypoxia. Schuman et al. (1997) noted that 15% of South Carolina school children reported experiencing a 'near-miss' at least once in the previous year. However, little is known about the extent of life-threatening submersion experiences among youth, a group universally recognised as being at high risk of drowning. It is the purpose of this paper to examine youth risk of drowning using self-reported incidence of life-threatening submersion experiences and exposure to risk as well as mortality, morbidity, and rescue data.

### Method

Four sources of data have been used to identify the extent of drowning risk among New Zealand youth for the 5-year period from 2003-2007. Fatal drowning (mortality) statistics were obtained from Water Safety New Zealand's Drownbase™, a comprehensive, multiple-source and integrated database (WSNZ, 2009). Non-fatal drowning incidents (with morbidity) were obtained from NZ Ministry of Health hospitalisation data, excluding Emergency Department stays of less than 24 hours. These two sources comprise the visible tip of the risk iceberg (see Figure 1).

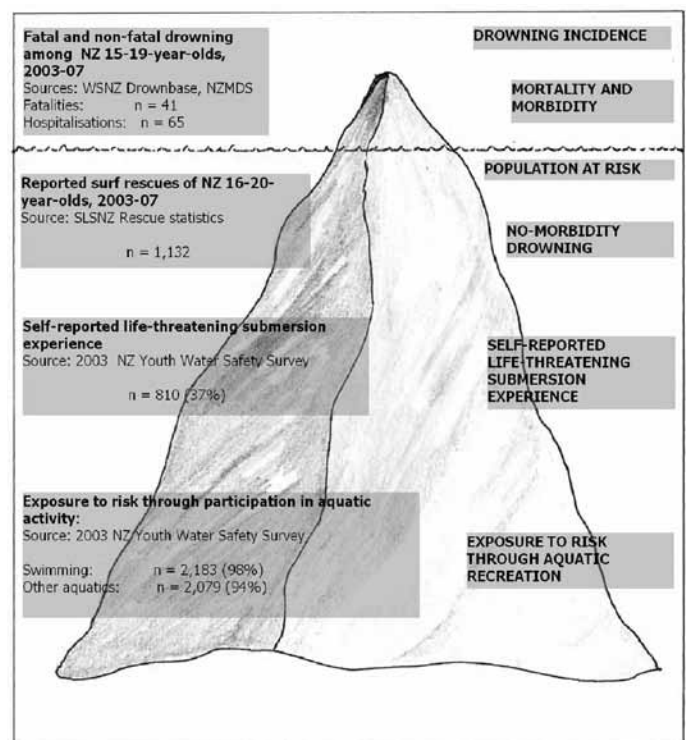
In addition, rescue statistics from Surf Life Saving New Zealand were included so as to provide evidence of the extent of life-threatening submersion experiences necessitating rescue among youth in the beach/surf environment (B. Sullivan, SLSNZ, personal communication, July 10, 2009). The use of rescue data to further illustrate the extent of drowning risk is justified on the basis that surf beaches are a popular site of youth aquatic recreation (Moran, 2008).

Beneath these upper layers of 'recorded' data, two further layers of evidence from the New Zealand Youth Water Safety Survey (Moran, 2003) have been included in the base of the iceberg, namely self-reported exposure to risk (previously reported in Moran, 2008) and life-threatening submersion experiences. The following methodology will thus focus on previously-unreported evidence of youth life-threatening submersion experience and its consequences.

Information on the incidence youth a life-threatening submersion experience among youth and their exposure to risk as a consequence of aquatic activity was obtained from a nationwide sample of 2,202 youth, 4% of a target population of approximately 50,000 year 11 students as part of a national water safety survey (Moran, 2003). In a self-complete, written questionnaire, participants were asked if they had ever been really afraid that they might drown. If they had experienced such a situation they were then asked to complete a supplementary question as to how they got out of difficulty. Data were analysed via SPSS Version 16.0 using the socio-demographic variables of gender, socioeconomic status, and ethnicity.

### Results

Figure 1. Illustrates the iceberg metaphor using New Zealand statistics related to the youth population.



In the five years from 2003-2007, a total of 41 New Zealand youth aged 15-19 years were fatally drowned. Of these, 66% of victims were male, most incidents occurred at rivers ( $n = 23$ ; 56%) or at beaches/tidal waters ( $n = 9$ ; 22%), and most of the fatal incidents ( $n = 30$ ; 73%) were recreation-related (Drownbase™, WSNZ, 2009). A further 65 non-fatal drowning incidents occurred in the five years from 2003-2007 where victims were hospitalised after a submersion incident (New Zealand Ministry of Health hospitalisation data, 2009). As was the case with drowning fatalities among this age group, most non-fatal victims were males ( $n = 54$ ; 83%).

During that same 5-year period, 1,132 incidents necessitating rescue from the surf were recorded among 16-20-year-olds (SLSNZ Rescue Statistics, 2003-07). In most cases ( $n = 1084$ ; 96%), the young victims did not require medical treatment and were released from the site after the rescue details had been recorded. A small proportion ( $n = 48$ ; 4%) required further medical attention or assistance via ambulance to hospital emergency care ( $n = 29$ ; 3%), referral to a doctor ( $n = 7$ , 0.06%), or with lifeguard assistance from the beach ( $n = 12$ ; 1%).

In terms of exposure to risk at the base of the iceberg, almost all youth had taken part in swimming activity ( $n = 2183$ ; 98%) or other aquatic activity ( $n = 2079$ ; 94%) in the previous year (see Figure 1). Table 1 shows that more than one third of youth reported having had a life-threatening submersion experience ( $n = 810$ ; 37%). Of these, more than half reported self-rescue ( $n = 431$ ; 53%), friends had been involved in one third of the rescues ( $n = 270$ ; 33%) and bystanders, lifeguards, or others ( $n = 109$ ; 14%) had effected the remainder of the rescues.

**Table 1.** Incidence of Life-threatening Submersion Experience and Mode of Rescue by Gender, Socio-economic Status via Decile Rating of School Attended, Ethnicity

	Life-threatening submersion experience		Mode of Rescue					
	n	%	Self-rescue		Friends		Others	
	n	%	n	%	n	%	n	%
Male	393	33.6	237	60.3	109	27.7	47	11.9
Female	417	40.4	194	46.5	161	38.6	62	14.9
Low-decile	233	37.0	119	51.1	80	34.3	34	14.5
Mid-decile	246	38.6	113	45.9	97	39.4	36	14.6
High-decile	331	35.5	199	60.1	93	28.1	39	11.8
European	490	36.6	281	57.3	149	30.4	60	12.2
Maori	140	34.5	62	44.3	53	37.9	25	17.8
Pasifika	90	44.1	44	48.9	33	36.7	13	14.5
Asian	70	34.0	37	52.9	25	35.7	8	11.4
Other	20	43.4	7	35.0	10	50.0	3	15.0
<b>Total</b>	810	36.8	431	53.2	270	33.3	109	13.5

Significant differences were found when the incidence of life-threatening submersion experience was analysed against gender ( $\chi^2(1) = 11.777, p = <.001$ ). More females reported having had a life-threatening submersion experienced (females 41%, males 34%). More males reported self-rescue from the life-threatening situation (males 60%, females 46%).

**Discussion**

By utilising the visual metaphor of the risk of drowning originally conceived by Schuman et al. (1977) and adopting a more comprehensive view of the risk of drowning, this study has found that the magnitude of that risk among youth may be considerably greater than anticipated. The inclusion of other data beneath the surface of this visible tip of the risk iceberg makes the need for drowning prevention interventions even more compelling.

The inclusion of surf rescue data in the risk iceberg revealed that 27 times as many youth had been rescued from the surf as had drowned or had been hospitalised from 2003-2007. While only a small proportion (4%) of rescues from the surf required further medical intervention, more than 1,000 youth were extricated from a situation considered serious enough by lifeguards to warrant their direct intervention. The prevalence of males in fatal drowning (66%), drowning-related hospitalisations (83%) and rescue statistics (62%) suggests that drowning prevention interventions might be best targeted at young men.

The self-reported survey data reported in this study found that more than a third (37%) of youth had had a life-threatening submersion experience, re-affirming claims by Schuman et al. (1977) that actual drowning figures are only the tip of the drowning iceberg. Recent evidence from a survey of 1,000 adults in the US also found that the magnitude of the problem may be greater than imagined, with one in every two adults (48%) having reported a life-threatening submersion experience (American Red Cross, 2009). In addition, the US survey also found that almost half (46%) of these experiences occurred between the ages of 11-20 years, reiterating the findings of the present study that adolescence is indeed a high risk time for many youth around water. When analysed by gender, significantly more females reported having had a life-threatening submersion experience (females 40%; males 33%).

Most youth (53%) managed to get out of difficulty on their own. However, one third (33%) reported that they had been rescued by friends and relatively few had been rescued by lifeguards or bystanders (14%).

Similarly small proportions of rescues by lifeguards have been reported in other studies. In the American Red Cross survey (2009), more than one third (37%) of rescues were self-effected, 48% involved family or friends and only 10% involved lifeguards. In light of this evidence, current advocacy by lifesaving and water safety organisations of safe bystander rescue techniques appear to be prudent (Pearn & Franklin, 2009).

Results from this study should be interpreted with some caution in light of several methodological limitations. Firstly, using data from varied sources to extrapolate the risk of death by drowning of a specific age group has limitations, especially when databases use different demographic variables. Secondly, the use of self-reported health behaviours (such as exposure to risk and life-threatening submersion experiences) may not accurately reflect the true incidence of such events (Robertson, 1992). Thirdly, the use of surf rescue statistics as a proxy measure of no-morbidity drowning episodes may not adequately reflect the true extent of drowning risk via rescue at other sites or during other activities.

**Conclusion**

Application of the Schuman’s iceberg metaphor to the risk of drowning among New Zealand youth using additional evidence of surf rescue statistics, self-reported life-threatening submersion incidents, and evidence of the high risk of exposure as a consequence of frequent aquatic recreation, suggests that the true risk of drowning may be greater than previously estimated.



Further research is required to confirm whether the apparently extensive occurrence of incidents where youth are subjected to serious risk of drowning is an accurate reflection of the true risk of drowning and whether the magnitude of that risk is replicated among other demographic groups.

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# KEEP WATCH

## A PROGRAM TO PREVENT CHILDREN UNDER 5 YEARS OF AGE FROM DROWNING

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### ABSTRACT

#### Background/Introduction

The Royal Life Saving Society Queensland (RLSSQ) was funded by the Queensland Injury Prevention Council (QIPC), a division of Queensland Health, to conduct a study to evaluate the delivery of a drowning prevention program for children under 5 years of age.

The Keep Watch program was devised by Royal Life Saving Society - Australia and is aimed at preventing children under 5 years of age from drowning by providing parents and carers with the skills and knowledge to undertake four simple actions of:

- Restricting the child's access to water;
- Ensuring they are actively supervising their children when they are in, or near water;
- Taking their children to and participating in water familiarisation classes and
- Learning CPR.

#### Methods

This project commenced on the 1 May 2009 and is to be completed by the 30 June 2010. In this study twenty (20) communities across Queensland were selected (10 control and 10 experimental). All 20 areas were surveyed about current understandings and beliefs about water safety issues. Then community specific Keep Watch programs were implemented into each of the 10 experimental areas over a 6 month period. After which, all 20 communities will be resurveyed to see if any change in knowledge, attitudes, behaviours etc is evident in those experimental areas that had exposure to the Keep Watch program. Information collected includes but is not limited to: demographics, attitudes towards pool fencing, roles of lifeguards, self reported behaviours when supervising children in and around water, resuscitation knowledge, and understanding of drowning locations.

#### Results/Evaluation

The paper will present the results of the initial survey data collected in the 20 communities. It will also explore the successes and challenges of delivering the program in Queensland.

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## Acknowledgements

The Queensland Injury Prevention Council provided funding for this research project.

## PRESENTATION PAPER

### Background/Introduction

#### Aim:

To evaluate the effectiveness of a community specific designed program, aimed at preventing children under the age of 5 years from drowning. This program will provide drowning prevention advice to parents and carers of children and those who have regular contact with parents and carers of children.

Within this aim this project has seven (7) main objectives:

1. Identification of 10 locations (communities) to provide an intensive Keep Watch Program.
2. Development of community specific program based on the needs and capacity of the community to provide Keep Watch activities to parents and carers and those who have regular contact with carers of children 0-5 years.
3. Undertake a community pre-program survey to examine change in community attitudes, self reported behaviours, water safety knowledge, risk factors and exposure.
4. Deliver the 10 community specific programs.
5. Undertake a process evaluation examining the implementation of the community specific programs in to each community.
6. Undertake a community post-program survey to examine change in community attitudes, self reported behaviours, water safety knowledge, risk factors and exposure.
7. Provide a report on the delivery of the 10 community specific programs and the outcomes from the evaluation.

Drowning is the leading single cause of death for Queensland toddlers aged 1-4 years <sup>1</sup>, and a leading cause of injury death nationally for children aged under 5 years <sup>2</sup>. While there has been a reduction in the number of drowning deaths over the last decade through the implementation of pool fencing legislation <sup>3</sup>, the drowning rates in Queensland have increased from 1.2 deaths per 100,000 in 2004-05 to 1.8 deaths per 100,000 in 2006-07 <sup>1</sup>. Home swimming pools continue to be the major location of drowning death, with bathtubs and rural locations as common areas <sup>1</sup>.

There are four prevention actions that have been proposed for the prevention of children under 5 years of age from drowning:

- Restricting access to the water, either by providing a barrier around the water or around the child
- Appropriate supervision (i.e. continuous, within arm's reach, with all your attention)
- Having the carer and child undertake water familiarisation classes
- Carers to learn CPR.

To address the issue of child drowning, the Royal Life Saving Society - Australia has developed the program 'Keep Watch' ([www.keepwatch.com.au](http://www.keepwatch.com.au)). This program is aimed at parents and carers of children under 5 years of age and provides information about how to implement the four prevention strategies.

### Methods

This project will use a range of models to deliver Keep Watch program activities to 10 locations within Queensland. The PRECEDE-PROCEED Model will be used in the planning and delivery of the program. A quasi-experimental design will be used to evaluate the program where at the start of the program 10 locations (experimental) will be matched (control) against a similar location (based on size, remoteness, etc) from the list (quasi-experimental design). The program will then be delivered at the 10 experimental locations. These locations will be spread across Queensland to provide a range of different settings.

For each of the 10 selected communities, after the pre-intervention survey the following PRECEDE process will be undertaken incorporating the HBM and Transtheoretical Model:

1. Planning
2. Define focus
3. Identification and prioritisation of community activities
4. Development of a project plan and timeframe for delivery of community activities
5. Implementation
6. Monitoring
7. Post-intervention survey

This study has two clear areas - the first is the implementation of 10 community specific programs aimed at reducing the number of children drowning in these communities and second is to evaluate the effectiveness of the community specific program to see if they have had an impact. As part of the study a process evaluation and an impact evaluation will be undertaken. It is rare in injury prevention to have program with an evaluation component built-in at the start of the program.

For this study we have defined drowning as "the process of experiencing respiratory impairment from submersion/immersion in liquid" <sup>4</sup>.

At the start of the project a steering committee will be established to oversee the development, implementation and evaluation of the project. Member of the steering committee will be made-up of project people and other community stakeholders. A project officer will be employed to undertake the day-to-day activities of the project. A quasi-experimental design to for the impact evaluation will be undertaken. From the list of locations, 20 communities will be matched based on geographical location, size of town and RLSSA services available. From the 10 pairs of community one community will be used as the experimental community (i.e. where the program will be delivered) and the other community will be the control.

A pre-survey will be undertaken in each of the 10 participating communities and also the 10 control communities. The survey will identify community attitudes, self reported behaviours, water safety knowledge, risk factors and exposure. A post program survey will be undertaken at the end of the program to see if there has been any change.

A process evaluation will be undertaken for each of the 10 experimental communities to monitor and review delivery of the individual Keep Watch activities (i.e. assessment of programme reach and proportion of components received by participants, assessment of participant satisfaction, assessment of degree of programme implementation and assessment of program materials).

For each of the 10 selected communities, after the pre-intervention survey the following PRECEDE process will be undertaken incorporating the HBM and Transtheoretical Model:

1. Planning Meeting - A RLSSA person from the community will be identified to coordinate with the project team to determine what interventions will be delivered in their community.
2. Define focus – Based on the information from the community survey and the capacity of the community a list of drowning prevention issues for children under 5 years will be established.
3. Identification and prioritisation of community activities – A list of community activities based on the RLSSA Keep Watch program will be determined and prioritised against those issues identified in step 2.
4. Development of a project plan and timeframe for delivery of community activities – A project plan and timeframe will be developed for each community for the delivery of the RLSSA Keep Watch activities.
5. Implementation – based on the project plan, those activities identified will be delivered.
6. Monitoring – the project officer will monitor the delivery of the different aspects of the community project plans; as well as:
  - Any other general state-wide programs undertaken by RLSSA during the project period
  - Media about child drowning deaths and RLSSA programs during the project period
  - Where possible any other child drowning prevention programs.
7. Post-intervention survey – this will be undertaken at all 20 locations.

A final project report will be produced at the conclusion of the project (June 2010) describing the activities undertaken and the results from the evaluation.

### Results/Evaluation

Some preliminary results at the time of writing the presentation paper are reported below. (More results will be presented at the conference.)

- 522 responses
- 84% Female
- 83% aged between 25 and 44 years
- Average of 2.1 children per carer
- 33% own a swimming pool
- 79.5% undertaken a resuscitation course
  - 33% within last 12 months
- 19.5% household income under \$50,000
- 26.9% less than \$100 per week disposable income

Lifeguards at Public Pool Primary Responsibility to supervise Children	Lifesavers at beaches primary role to supervise children			
	No	Unsure	Yes	Total
No	254	7	4	265
Unsure	24	35	3	62
Yes	87	26	82	195
<b>Total</b>	<b>365</b>	<b>68</b>	<b>89</b>	<b>522</b>

### Conclusion

Keep Watch is an on-going program of the Royal Life Saving Society - Australia and all activities in this program will continue at different levels. As part of the program a number of train-the-trainer programs will be undertaken, this will leave people in the community able to continue to the Keep Watch program at a local level. Any resources developed will go into the Keep Watch suite of resource to be used in the future. Lessons learnt from the program will allow Royal Life Saving to better tailor the Keep Watch program in the future.

### Acknowledgements

All funding for this research project was provided by the Queensland Injury Prevention Council (QIPC).

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# ESTABLISHING NEW ZEALAND'S WATER SAFETY RESEARCH

## OBJECTIVES AND OUTCOMES

ALEX BRUNT

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### ABSTRACT

The presentation will cover the formation of the Water Safety New Zealand Research Advisory Group and the processes used to determine what New Zealand's national research priorities and objectives would be for the next three - five years. The presentation will also look at the results from a major international literature review as well as highlight recent research undertaken in Canyoning.

### PRESENTATION PAPER

#### Background

Water Safety New Zealand (WSNZ) is New Zealand's national organisation responsible for water safety education, awareness and prevention. It represents 36 organisations within New Zealand that have an interest in water safety.

During 2008 / 2009 WSNZ established the Research Advisory Group (RAG). The RAG identifies, prioritises and addresses gaps in current data sources and knowledge working to enhance the evidence base of effective interventions and programmes in New Zealand. It further provides for the coordination and support of New Zealand-specific research into water safety.

The RAG have produced a draft Research Strategy that contains the national objectives and outcomes for the next three-four years.

#### Discussion

In order to establish the critical research objectives and outcomes needed a critical review of New Zealand and international research published since 1990 was completed. The review investigated the RAG's main areas of inquiry, focusing specifically on published, unpublished and in-progress research on the following topics:

- Drowning causation, including fatal and non-fatal drowning.
- Water safety education, including:
  - discussion on the effectiveness of water safety education in reducing the risk of drowning and other water related injuries. This will include identifying and discussing the features of effective water safety education

- identifying and reviewing research and evaluations on past and current water safety education programmes, both in New Zealand and comparable countries overseas, that may have assisted in reducing the incidence of drowning. This will include identifying common key success factors and factors that promote and inhibit the sustainability of programmes
- drawing on the findings from the literature reviewed to identify gaps and overlaps from the New Zealand water safety stocktake (2008, August).
- Policies and training, including qualification and certification procedures. Describing and discussing the wider components of water safety activities that impact on, provide context for and support effective water safety education.

The completed literature review was processed into an annotated bibliography which is available in an online research search tool at [www.watersafety.org.nz](http://www.watersafety.org.nz).

In order to understand what gaps of knowledge were present from a national perspective the following gap analysis was completed: An analysis of water safety research and research priorities identified by water safety organisations in New Zealand.

With the conclusion of these two pieces of work the following research strategy emerged:



The strategy is based on the aim "to be the leading water safety knowledge base". This aim is taken as a primary research goal from WSNZ's Strategic Direction 2007-2012 that was approved by the membership of WSNZ. Supporting the strategy's aim are three principles:

1. To promote a culture of research and evaluation within the water safety sector;
2. To provide the sector with research that informs the practitioners working alongside and in the community as well as an academic audience;
3. To ensure that research is readily available to the community and sector.

These three principles support five key priority areas:

1. Research into socio economic and cultural issues that are prevalent in drowning incidents;
2. Research that looks at what increases peoples survivability of a drowning incident along with the cause of drowning within New Zealand;
3. To provide the sector with meaningful evaluation and outcome monitoring tools to ensure education, awareness and prevention initiatives are working;
4. To respond to the significant incidence of male drowning fatalities 76% (five year average);
5. To provide responsive research as and when required by the sector.

For each priority area key objectives / research topics have been established around a budget of \$150,000 per annum. All objectives / research topics have had desired outcomes and timelines set for completion.

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Most traditional learn-to-swim and swimming programmes are geared towards teaching FINA-recognised swimming strokes.

PRESENTATIONS:

# STRATEGY AND OLDER PEOPLE

## “SWIMSAFER” PROGRAMME – DROWNING PREVENTION IN SINGAPORE

RICHARD M K TAN

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### ABSTRACT

Most traditional learn-to-swim and swimming programmes are geared towards teaching FINA-recognised swimming strokes. However, these may not be ideal for purposes of survival in water and drowning prevention.

There is recent research to show that some of the skills required for survival in water and drowning prevention are different. Based on this, the National Water Safety Council of Singapore embarked on a review of the existing swimming programme and worked with consultants to develop a new national swimming programme with the main objective of survival in water and drowning prevention.

This paper outlines the background to the review and the steps taken by the Council and the consultants involved in developing the new national swimming programme for Singapore. It also deals with some of the problems encountered and the trial classes run as part of the development process. Finally, the paper also deals with some of the considerations behind the Council in adopting such an approach.

### PRESENTATION PAPER

#### Introduction

There is increasing recent evidence from the United States, China and Bangladesh to suggest that swimming ability provides some protection for children against the risk of drowning. Recognising this and as part of its strategic initiative to promote a comprehensive and sustainable water safety system in Singapore, the National Water Safety Council, Singapore (NWSC) engaged the Royal Life Saving Society-Western Australia and the Singapore Life Saving Society as expert consultants in July 2008 to design a better structured programme to improve learning outcomes in swimming and water survival skills. Following extensive research and deliberation, the Council accepted the recommendations of the consultants in July 2009.

A dedicated Safe Swimming division was subsequently set up by the Singapore Sports Council to spearhead the implementation of the new programme, named the “SwimSafer”.

#### Background

Most traditional learn-to-swim and swimming programs in Singapore and elsewhere appear to be geared towards teaching FINA-recognised swimming strokes. However these may not be ideal for purposes of survival in water and drowning prevention. There is also recent research to suggest that some of the skills required for survival in water and drowning prevention are different from the usual FINA-recognised swimming strokes that comply more with the rules of competitive swimming. In a paper published in the International Journal of Aquatic Research and Education in 2008, the authors sought to identify, among other things, the causes of drowning and how they could be translated to “what children should learn”. Their study led them to identify eight skills, which they considered “irreducible and irreplaceable”.

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The eight skills identified involved the ability to:

1. Jump or dive into deep water
2. Regain surface, level off and swim
3. Surface dive and swim underwater with comfort
4. Swim two strokes – one on the front and one on the back
5. Breathe in a relaxed way with optimal technique relative to stroke
6. Roll over from front to back and back to front
7. Turn left and right, both on the front and back
8. Stop and rest with minimal movement

For obvious reasons, the authors of the paper took the view that these skills should preferably be performed fully clothed and outdoors. The authors also concluded that “in too many cases, children are not taught what is necessary for them to cope with an unexpected submersion” and that swimming should involve the concept of “aquatic competency” rather than just “a matter of correct movements”. In fact the Lifesaving Society of Canada, identified only three in-water essential skills to survive an unexpected fall into deep water based on their drowning research. They are: rolling into deep water, treading water for a minute, and swimming 50 metres. These skills have been incorporated into their Swim to Survive Programme.

Based on these developments, the NWSC embarked on a review of the existing swimming programmes and enlisted the services of the consultants to develop a new national water competency programme with the main objectives of survival in water and drowning prevention.

### Methods, Results & Discussion

The consultants did not have to start from scratch as there were already in existence two programmes: the Learn-to-Swim Programme (LTSP) – a traditional swimming programme with the aim of imparting fundamental swimming skills to non-swimmers – and the National Survival Swimming Awards (NASSA) – a water survival programme based on the skills needed to simulate surviving a sinking maritime vessel. The consultants’ job was to integrate the best elements of the two programmes together and bring them up to date in one integrated programme, bearing in mind that most drowning situations in Singapore do not involve the scenario contemplated by the NASSA programme.

The NWSC was keen to establish an improved water competency programme that was based on current research and best practices, rather than a mere integration of the two existing programmes. Initially the drowning prevention objective was not emphasised enough, which was reflected in the consultants’ original programme proposal that consisted of traces of FINA-recognised strokes, for e.g. skills such as the dolphin kick and butterfly stroke. However persons familiar with swimming will know that the butterfly stroke is widely considered as a difficult stroke to execute for beginners. In any case, further clarification by the Council realigned the focus back to the paramount objective of drowning prevention.

The scope of the recommendations by the consultants included the following areas:

- a. studies on the epidemiology of drowning in Singapore;
- b. in-depth understanding of existing swimming programmes in Singapore;
- c. consultation exercises with relevant stakeholders, including the Ministry of Education, swimming instructors, testers, swim schools, parents and associated sports associations;
- d. identification of issues, gaps and areas for improvement;
- e. identification of implications for swimming instructors (e.g. education, competency, qualification and re-certification);
- f. exploring improvements in the assessment of outcomes; and
- g. consideration of safety and supervision ratios.

The Singapore-based consultants also conducted two trial classes before fine-tuning the SwimSafer for adoption by the NWSC. One class comprised 12 students aged 8 or 9 years and a second class comprised 7 students aged 10 or 11 years. A traditional progressive training approach was used for the first five lessons. However Fred Lanoue’s “drownproofing” technique was taught in the 6th lesson and after that, students generally demonstrated greater confidence, which helped considerably in the subsequent progress of the students.

According to one of the swimming instructors of the pilot classes, the “drownproofing” technique:

- a. allowed the student to believe in his own capability to float by making use of his natural buoyancy;
- b. was relatively easy to learn;
- c. allowed a person to be able to breathe spontaneously and in a relaxed manner in water; and
- d. once breathing in water no longer posed a difficulty, it enhanced confidence in the learning the other relevant skills.

As a result of this finding, the teaching of the skill, which was named “Flotation Survival Technique”, was subsequently included in the first level of the new integrated programme.

Other significant changes in the SwimSafer programme included the following:

- a. reduction of the instructor-to-pupil ratio from 1:20 to 1:10;
- b. introduction of an open water experience module; and
- c. reduction in the maximum swimming distance required under the previous highest level (1,500 metres for the NASSA Gold Star to 400 metres in the SwimSafer Gold, i.e. the highest level in the new integrated programme).

These changes were consistent with the following findings and expert recommendations:

- a. smaller class sizes were more effective;
- b. swimmers should gain water competency especially in open waters, where they may face in a drowning situation; and
- c. many people involved in drowning situations did not have to swim very far to safety, which was based on a 2002 study that 60% of all cases of drowning cases in the United Kingdom occurred within three metres of safety.

The consultants' final report proposed a new programme that integrated the best elements of the LTSP and NASSA and amalgamated their best practices. While there were a few differences in opinion, the report was substantially adopted by the NWSC. The SwimSafer programme was formally announced by Chairman NWSC, Dr Teo Ho Pin, on 18 March 2010, with the programme scheduled for launch in all Singapore public pools in July 2010.

### Conclusion

It is important to recognise that the skills required for the purposes of drowning prevention are different from those required for competitive or recreational swimming. More and better research in the area will help to clarify the exact skills required. In the meantime it may still be timely and helpful to review and, if necessary, incorporate the skills identified by current research into traditional swimming programmes. It would be a shame if a person were able to swim a FINA-recognised swimming stroke and yet unable to survive in water due to ignorance of other essential survival skills. As Nobel Prize winner Herbert Simon indicated: it is impossible to have perfect and complete information at any time to make a decision.

The NWSC initiated the necessary step to institute a better-structured programme to improve learning outcomes in swimming and water survival skills. However it also recognises that the SwimSafer programme in its current form will require fine-tuning and continual revision when more research and knowledge about swimming and drowning prevention becomes available. It intends to regularly review the programme to ensure that it is current and serves the objectives of drowning prevention.

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### Acknowledgements

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### The National Water Safety Council of Singapore

The NWSC was appointed in 2007 as leading water safety agency to oversee water safety matters in Singapore. Helmed by Dr Teo Ho Pin, Mayor of North West Community Development Council and Honorary Advisor to the Singapore Life Saving Society, the NWSC comprises members from the people, private and public sectors and is the national coordinating body in driving and sustaining long term initiatives in water safety.



# GREY MEDALLION

## A PROGRAM TO PREVENT CHILDREN UNDER 5 FROM DROWNING THROUGH IMPROVED SUPERVISION

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**MICHAEL DARBEN**

*Executive Director, Royal Life Saving Society – Queensland*

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### ABSTRACT

#### Background/Introduction

The Royal Life Saving Society Queensland (RLSSQ) was funded by the Queensland Injury Prevention Council (QIPC), a division of Queensland Health, to conduct a study to pilot the Grey Medallion in Queensland and evaluate its effectiveness in increasing participants knowledge and skills in water safety and the retention of these skills at six months. This project commenced in May 2009 and is due to be completed in December 2010.

The Grey Medallion is a program created by the Royal Life Saving Society - Australia in response to the increase in the number of people over 55 years of age (older Australians), the alarming number of drowning deaths recorded in this age group and the changes to society that are leading to more and more grandparents being the primary supervisors of children under 5 around water. By 2020 it is predicted that 31% of the Australian population will be aged over 55 years.

In 2009, 94 Australians over 55 years drowned representing 31% of all drowning deaths in Australia. Of these, 24 Older Australian drowned in Queensland representing nearly a third (29%) of all drowning fatalities in this age group. There are four main components to the Grey Medallion: Water safety knowledge, Resuscitation and Emergency Care, Aquatic exercise and Personal survival and lifesaving Skills.

The project aims to have over 400 older Queenslanders participate in the program between 1 July 2009 and 30 June 2010. To help achieve this aim, seven Train-the-Trainer courses will be conducted throughout Queensland.

#### Methods

The participants will be surveyed pre, post and 6 months post course to analyse the change in knowledge and behaviour. Information collected in these surveys includes but is not limited to: course content, attitudes and self reported behaviours in aquatic environments, understanding of drowning locations and causes, rescue techniques, self preservation techniques, resuscitation knowledge and demographics.

#### Results/Evaluation

The paper will present the results of the research to date and explore the successes and challenges of delivering the program in Queensland. It will also explore the participant's knowledge and understanding of drowning prevention.

#### Acknowledgements

The Queensland Injury Prevention Council provided funding for this research project.

### PRESENTATION PAPER

#### Background/Introduction

##### Aim

To evaluate the effectiveness of a community program for older carers of children under 5 years of age, aimed at improving their understanding of the risks of drowning and prevention strategies for children under the age of 5 years from drowning. This program will also provide water safety knowledge, resuscitation and emergency care skills, aquatic exercise skills and personal survival and lifesaving skills.

Within this aim this project has seven (7) main objectives:

1. Provide training for Grey Medallion Trainers in Queensland
2. Deliver Grey Medallion Courses across Queensland specifically in Brisbane, Gold Coast, Burpengary, Cairns and the Sunshine Coast.
3. Deliver Pre-course survey to gather information on attitudes, self reported behaviours, water safety knowledge, risk factors and exposure.
4. Deliver Post-course survey to gather information on attitudes, self reported behaviours, water safety knowledge, risk factors and exposure.
5. Deliver 6 month post-course survey to gather information on knowledge, attitudes, behaviours and perceptions.
6. Process evaluation on the implementation of the Grey Medallion in specific locations in Queensland.
7. Provide a report on the delivery of the programs and the outcomes from the evaluation.

Drowning is the leading single cause of death from all causes for Queensland toddlers age 1-4 years <sup>1</sup>, and the leading cause of injury death nationally for children aged under 5 years <sup>2</sup>. While there has been a reduction in the number of drowning deaths over the last decade through the implementation of pool fencing legislation <sup>3</sup>, the drowning rates in Queensland have increased from 1.2 deaths per 100,000 in 2004-05 to 1.8 deaths per 100,000 in 2006-07 <sup>1</sup>. Home swimming pools continue to be the major location of drowning death, with bathtubs and rural locations as common areas <sup>1</sup>.

There are four prevention actions that have been proposed for the prevention of children under 5 years of age from drowning:

- Restricting access to the water, either by providing a barrier around the water or around the child
- Appropriate supervision (i.e. continuous, within arm's reach, with all your attention)
- Water familiarisation
- For carers to learn CPR

In an Australian wide survey of 801 people aged over 50 years 30% of the sample said they had been responsible for supervising children under 5 years of age over the last 12 months in an aquatic location<sup>4</sup>. It was identified that many of the participants were concerned about grandchildren drowning in their care, that they did not have the skills (including swimming ability) to help the children if they got into trouble, and were unsure about appropriate water safety for those in their care and themselves<sup>4</sup>.

### Drowning deaths in Older Australians

In 2009 there were 94 people aged 55 years and older who drowned in Australia representing 31% of the total drowning deaths last year. They drown in a variety of waterways, from the beach to inland rivers and many more suffer injuries or heart attacks in these locations.<sup>4</sup>

By 2020 there will be over 7 million people aged over 55 years (older Australians), representing nearly one third (31%) of the population<sup>5</sup>. However, there is not a water safety program that caters specifically for this demographic. If prevention strategies are not developed and implemented to address this problem, drowning deaths of older people could increase by 40% through population growth alone.

Demographic data suggests that the 'seachange' phenomenon is particularly apt for older Australians. 'Seachange' is an abandonment of city living in favour of a perceived easier life in rural coastal communities. Due to increased exposure to aquatic environments, drowning deaths in the over 55s age group may increase if prevention strategies are not implemented. While most Australians enjoy the water, the number of people undertaking aquatic activities decreases as the population ages, however fishing, boating and swimming remain activities that older Australians continue to participate in after retirement.

Research in the USA and Australia has shown that increasingly children are being cared for by their grandparents<sup>6,9</sup>. The type of care includes both regular child care during the working week as well as irregular weekend/evening care and during times of crisis or special need.

To ensure that older people are well prepared for their newfound lifestyles and changing circumstances, development of a program which aims to provide a set of water safety skills and knowledge is essential. It is anticipated that with an increase in water safety skills and knowledge fewer older Australians will drown, more older Australians will participate in aquatic activities and if an incident does occur they will have the skills to manage the situation and reduce the risk of harm to themselves or others in the vicinity.

In response to the need for such a program, RLSSA has developed a water safety education program called the Grey Medallion.

The Grey Medallion program aims to:

- Reduce the number of older Australians drowning;
- Provide older Australians with water safety knowledge and skills;
- Provide older Australian with supervision skills
- Increase the number of older Australians participating safely in aquatic activities; and
- Reduce the risk of falls in older Australians through aquatic based activity.

### The Grey Medallion

The purpose of the program is participation; aiming to get the older Australian involved in aquatic activities and also improve their lifesaving and survival skills. As the research has shown, this demographic plays a role as child carers and caring for their grandchildren often involves supervising children around water. This places more importance on the need for a water safety program for the over 55s.

There are four main components of the program:

- Water Safety Knowledge
- Resuscitation and Emergency Care
- Aquatic Exercise
- Personal Survival and Lifesaving Skills

### Methods

This study has two clear areas, a) the implementation of the Grey Medallion in specific locations in Queensland aimed at improving the supervision of children under 5 years of age by older carers and b) to evaluate the effectiveness of the Grey Medallion program to see if it has had an impact at an individual level. As part of the study a process evaluation and an impact evaluation will be undertaken. It is rare in injury prevention to have program with an evaluation component built-in at the start of the program.

The program will include the training of trainers across Queensland. These trainers will then be able to deliver the program in their local community. Recruitment of trainers will include people from aquatic centres who will then take this program back to their centre to deliver. The program is designed in a modulated format to allow for delivery in a flexible manner. Other people who are interested in delivering the program but are not members of aquatic centres will also be encouraged to participate and an examination of models for delivery (including costs) will be undertaken for this group. Funds will be used to promote these course using the local media, posters, DL flyers, and brochures and other means (e.g. talks at local clubs), this will also be examined as part of the process evaluation to try and determine the best method. Equipment will be purchased and placed in strategic location across Queensland to help keep the costs of the program low and allow a range of people to participate. The target is a minimum of 300 people participating in the Grey Medallion over the project period.

The experimental design for the impact evaluation will be using the participants as their own control by undertake a pre, post and 6 month post surveys to see if there has been a change in attitudes, self reported behaviours, water safety knowledge, risk factors and exposure due to participation in the program.

A process evaluation will be undertaken for the delivery of the Grey Medallion (i.e. assessment of programme reach and proportion of components received by participants, assessment of participant satisfaction, assessment of degree of programme implementation and assessment of program materials). A final project report will be produced, at the conclusion of the project (December 2010), describing the activities undertaken and the results from the evaluation.

### Results/Evaluation

<b>Train-the-Trainer Workshops</b>	<b>#</b>	<b>Trainer Locations</b>	<b>#</b>	<b>Participant Courses</b>	<b>#</b>
Brisbane x 2	TBA	Gold Coast	TBA	Warwick	5
Rockhampton	1	Warwick	2	Cairns	9
Townsville	1	Toowoomba	2	Caloundra	7
Bundaberg	1	Brisbane	TBA	Capalaba	10
Gold Coast	TBA	Sunshine Coast	5	Royal Brisbane Hospital	25
Charters Towers	1	Gympie	1	Zillmere	10
Zillmere	9	Hervey Bay	1	Gold Coast	TBA
Toowoomba	TBA	Bundaberg	1	Townsville	TBA
Sunshine Coast	5	Childers	1	Mackay	TBA
Mackay	TBA	Rockhampton	1	Toowoomba	TBA
Cairns	6	Mackay	TBA		
Burpengary	4	Townsville	1		
		Charters Towers	1		
		Cairns	3		
		Port Douglas	1		

At the time of writing this paper we are awaiting further survey results and preliminary results will be presented at the conference.

### Conclusion

Equipping our older Australians with the skills and knowledge that may one day help them save their life or the life of a loved one or stranger will have a twofold benefit to our drowning statistics. Firstly, we may see a reduction in the drowning rate in our over 55 year category and secondly, a reduction in the younger age categories (as this group of individuals become better at supervision and rescue techniques). The Grey Medallion program could be replicated at any venue around Australia and we encourage all members of the public to enrol in a course.

### Acknowledgements

All funding for this research project was provided by the Queensland Injury Prevention Council (QIPC).

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# ACT SENIORS AQUATIC RECREATION

## GREY MEDALLION

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## ABSTRACT

### Background/Introduction

The ACT Seniors Aquatic Recreation Program helped provide the following:

- links between individual seniors, clubs and centres, the council of the Ageing, U3A, Active aging group, RLSSA and local community aquatic facilities
- improved wider community knowledge and understanding of water safety, drowning prevention, physical activity and aquatic recreation
- assisted aquatic facilities to provide community friendly facilities that encourage participation by seniors and the older community
- Increase aquatic recreation participation by ACT Seniors

The Program had a key focus of developing and educating seniors in the fundamental skills in being active in aquatic recreation, water awareness, lifesaving and emergency first aid.

### Methods

The Older Persons program was designed to be delivered in partnership with aquatic facilities and community groups. It was structured in such a way that participants could organise how and when they part take in activities. The program was structured so that candidates could participate one lesson at a time with the aim to complete all the lessons to a particular module and then go on to complete all four modules to gain their award if they so desire. Each lesson and associated learning activities are designed so that a candidate takes away important water safety and lifesaving skills from every lesson.

### Results/Evaluation

It was anticipated that with an increase in water safety skills and knowledge fewer seniors will drown or be injured in aquatic environments. Furthermore seniors will participate in fun and safe aquatic activities increasing their health and well being, reducing their risk of falls and better able to cope with and reduce the risk of harm to themselves and others.

## PRESENTATION PAPER

### Background/Introduction

In 2006 the Royal Life Saving Society Australia undertook an examination of drowning deaths of people aged over 55 years based on the increasing trend found in the National Drowning Reports.

The study culminated in the production of a report called Older Australian Aquatic Safety. This report provided a range of information about aquatics and older Australians that has been incorporated into this program

The Older Persons program is designed to be delivered in partnership with aquatic facilities and community groups such as Probus. It is structured in such a way that participants can organise how and when they part take in activities. The program is structured so that candidates can participate one lesson at a time with the aim to complete all the lessons to a particular module and then go on to complete all four modules to gain their award if they so desire. Each lesson and associated learning activities are designed so that a candidate takes away important water safety and lifesaving skills from every lesson.

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- Increase aquatic recreation participation by ACT Seniors.

The Program had a key focus of developing and educating seniors in the fundamental skills in being active in aquatic recreation, water awareness, lifesaving and emergency first aid.

The risk of sustaining an injury from a fall increases for older people, particularly after the age of 65 years. Preventing falls in older people is important because falls often result in serious injury, including hospitalisation. A fall is also the most common reason for admission to residential care so avoiding falls is a key means of maintaining an independent lifestyle as people age.

Factors that can increase the risk of a fall or the likelihood that a fall will result in an injury include.

- Low levels of physical activity
- Impaired balance and mobility
- Reduced muscle strength
- Osteoporosis
- Depression
- Sensory problems including visual acuity and depth perception
- Dizziness
- Multiple medications

Falls around water can be particularly dangerous. For example, a fall whilst fishing, swimming or walking around water can easily place someone in a life threatening situation.

### Methods

The Older Persons program was designed to be delivered in partnership with aquatic facilities and community groups. It was structured in such a way that participants could organise how and when they part take in activities. The program was structured so that candidates could participate one lesson at a time with the aim to complete all the lessons to a particular module and then go on to complete all four modules to gain their award if they so desire. Each lesson and associated learning activities are designed so that a candidate takes away important water safety and lifesaving skills from every lesson.

### Results/Evaluation

It was anticipated that with an increase in water safety skills and knowledge fewer seniors will drown or be injured in aquatic environments. Furthermore seniors will participate in fun and safe aquatic activities increasing their health and well being, reducing their risk of falls and better able to cope with and reduce the risk of harm to themselves and others.

### Discussion

The RLSSA Community Development model uses a range of engagement strategies to ensure that the target population is active in the planning, development, promotion and implementation of targeted strategies and activities.

Royal Life Saving act as facilitators and this model has been shown to increase community acceptance and involvement in a range of activities. This approach invests in the community and supports longer term sustainability of project outcomes.

### Acknowledgements

ACT Health

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# 'REACHING COMMUNITIES WHO HEAR WITH THEIR HEARTS'

## THE NEXT CHAPTER

**BEN PENITA TAUFUA**  
*Managing Director, Tautua Synergy*

### ABSTRACT / PRESENTATION PAPER

This presentation tracks the progress of WSNZ's Pacific Peoples Water Safety project designed to raise awareness of water safety issues amongst Pasifika communities in New Zealand. WSNZ's 2007 - 2010 Strategy called for the development of a three-year Pacific Communications plan 2008-2011, detailing the development of a specific and targeted approach to addressing Pacific peoples' water safety education needs in a manner that is likely to be effective, responsive and culturally appropriate, thereby increasing WSNZ's effectiveness in reaching Pasifika communities. Key goals focused on raising awareness through Pacific Engagement with media and networks including Churches and Community Roadshows.

An effectively emotive DVD and other culturally specific resources were developed to focus on 'real' families, living with 'real' consequences, evoking 'real' emotions within Samoan, Tongan and other Pacific communities. The DVD demonstrates the need for collective responsibility around water safety, is inherently emotional and contributes to the desired behavioural change. It presupposes that Pasifika communities hear with their hearts, so will ultimately achieve the desired outcome.

Launched in September 2008, this community development project continues to be delivered amongst Pacific communities in Auckland. This presentation shares some of the experiences and learnings that have occurred along the way.

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# CAPACITY BUILDING

## FOR DELIVERING WATER SAFETY EDUCATION IN ACT SCHOOLS

**CHERRY BAILEY**  
*Operations Manager, Royal Life Saving Society  
- Australian Capital Territory*

**SEAN HODGES**  
*Executive Officer, Royal Life Saving Society  
- Australian Capital Territory*

### ABSTRACT

#### Background/Introduction

To increase participation in school-based structured aquatic activities for high school and college aged students; To provide an option for schools and teachers that offered clear links to the established ACT School Curriculum; To provide an alternate professional development opportunity for outdoor education and physical education teachers.

Participation in aquatic recreation through school programs had ceased in most schools. The program was developed in order to provide an easier way for schools and teachers to include aquatics into their planned physical education units.

- Hosted at the Australian Institute of Sport in Canberra
- The program is targeted at ACT High Schools and Colleges
- The program is supported by the Canberra Labor Club and promoted by the ACT Department of Education and Training. It was well received in its initial year and has continued to grow ever since.

#### Methods

With funding available the program is presented to schools and teachers as a complete package that includes flexible training options, administration support, training and assessment support, and training and assessment resources. Certification is issued upon the completion of training which takes place over one day. Teachers are then able to deliver basic aquatic rescue and survival training, to the level of Bronze Medallion, in their own schools.

Initially introduced in 2006, the program has increased in popularity over the past 4 years. It is hoped this trend will continue and enable every high-school and college in the ACT to have a Royal Life Saving school-based trainer by the end of 2011.

#### Results/Evaluation

Primary feedback is obtained directly from the participants, as well as from the Department of Education and Training. Secondary feedback is gathered from students participating in the courses run by their teachers at school.

The program's success has been measured mostly through the number of participants and the number of in-school training sessions hosted by those participants. In 2009 the ACT had RLSS school-based trainers in 64% of high schools and colleges.

Since the program was introduced the ACT has definitely seen an increase of participation of school-based structured aquatic activities and this has been directly related to the capacity-building training sessions conducted with school teachers.

A surprising yet welcomed effect was experienced when teachers discovered just how low the standard of basic swimming and survival skills was for this age group. This revelation created a large amount of support from The Department of Education and Training and aided RLSS ACT in securing the tendered DET Primary Schools' Swimming program contract.

## PRESENTATION PAPER

### Background/Introduction

The Royal Life Saving Society ACT is an active member of the ACT Safe Waters Committee. This committee is concerned with the water safety and drowning prevention issues of the ACT community. In conjunction with the ACT Safe Waters Committee, RLSS-ACT has identified a number of concerning trends among the ACT community including gaps in the provision of water safety education, poor attendance rates for school swimming carnivals and lack of participation in other aquatic recreation pursuits by ACT children.

Water Safety Education has been identified as a major issue within the ACT Safe Waters framework 2009-13 and is also reinforced as a drowning prevention pillar in the Australian Water Safety Strategy 2008-2011. Water Safety Education provides the knowledge and skill base from which all other water safety flows. The Australian Water Safety Strategy points to a need to benchmark swimming and water safety skills in children across Australia and to continue to build the culture of water safety.

With participation rates in school based aquatic recreation dropping in the ACT, it is imperative that children receive education in water awareness and survival swimming in order to improve involvement in physical activity in aquatic recreation.

Royal Life Saving observed that participation in aquatic recreation through school programs had ceased in most schools. Royal Life Saving wanted to develop a program which would provide an easier way for schools and teachers to include aquatics into their planned physical education units.

To help overcome these issues Royal Life Saving initially introduced a ACT School Teachers Bronze Instructor Program with the aim to increase participation in school-based structured aquatic activities for high school and college aged students; The program provided an option for schools and teachers that offered clear links to the established ACT School Curriculum as well as providing an alternate professional development opportunity for outdoor education and physical education teachers.

### Methods

With funding available the program is presented to schools and teachers as a complete package that includes flexible training options, administration support, training and assessment support, and training and assessment resources. Certification is issued upon the completion of training which takes place over one day. Teachers are then able to deliver basic aquatic rescue and survival training, to the level of Bronze Medallion, in their own schools.

Initially introduced in 2006, the program has increased in popularity over the past 4 years. It is hoped this trend will continue and enable every high-school and college in the ACT to have a Royal Life Saving school-based trainer by the end of 2011.

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The program's success has been measured mostly through the number of participants and the number of in-school training sessions hosted by those participants. In 2009 the ACT had RLSS school-based trainers in 64% of high schools and colleges.

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A surprising yet welcomed effect was experienced when teachers discovered just how low the standard of basic swimming and survival skills was for this age group. This revelation created a large amount of support from The Department of Education and Training and aided RLSS ACT in securing the tendered DET Primary Schools' Swimming program contract.

### Acknowledgements

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Quality parent education and aquatic skill development are important front line strategies for drowning prevention in the 0-3 age group.

WORKSHOPS:

# CHILDREN UNDER 5

## SWIM TEACHERS – EDUCATING PARENTS TO SAVE LIVES

JULIE ZANCANARO

Quality parent education and aquatic skill development are important front line strategies for drowning prevention in the 0-3 age group.

Swim teachers often face unrealistic parental expectations when booking 1st lessons, and yet expectations when parents enrol subsequent children are often more realistic.

- What were the key factors in successful parent education?
- What drowning prevention strategies can be promoted in a parent/child aquatic education program?

A recent NIH study confirmed that children who attend lessons are drowning less.

Are children who attended lessons drowning less because:

- a. they have acquired skills to avoid danger?
- b. they have acquired skills to save themselves?
- c. the parent is more aware of preventing danger?

Assuming all 3 are factors, how can we increase awareness and skills?

- a. What helpful skills can children this age achieve, both cognitively and physically?
- b. What helpful action can parents take?
- c. How can teachers facilitate the above in swim lessons?

This interactive workshop will explore aspects of early childhood development; early aquatic skill progressions; and the adult education process; used by swim teachers to deliver front line education programs for the prevention of drowning.



# WATER SAFETY BENCHMARKING

## OBSERVATIONAL INVESTIGATION INTO THE TEACHING OF WATER SAFETY SKILLS

**PENNY LARSEN**

*National Manager Education & Training, Royal Life Saving Society - Australia*

**MELISSA SAVAGE**

*Project Officer, AUSTSWIM*

### INTRODUCTION

The Australian Water Safety Strategy 2008-2011 following on from the National Water Safety Plan 2004-2007, outlines that the minimum competencies to be achieved by the completion of Primary School education are equivalent to Swim and Survive Level 4. This National Benchmark prescribes the targets to be achieved in the key areas of swimming, survival and rescue education.

In Royal Life Saving's National Drowning Report 2008-2009, there were 11 preventable drowning deaths in the 5-14 year age group. Most of these drowning deaths occurred whilst undertaking leisure or swimming activities at the time of the death with the most common location being a river and during the summer and spring months. An additional 7 drowning deaths occurred in the 15-17 year age group.

The strategies suggested in the 2008/2009 National Drowning Report as a way of reducing these deaths included:

- Teaching of personal survival skills, treading water and floating.
- Development of foundation skills in swimming, lifesaving and water safety.
- Rules and behaviours regarding appropriate locations established and reinforced often.

There has been much concern within the industry regarding falling swimming and water safety achievement levels in children across Australia and observations made of a decline in the amount of children engaging in formal swimming programs. There may be a range of reasons for this decrease in participation such as cost, access, or availability of qualified teachers but the lack of participation will have a great impact on the number of children being able to competently achieve the National Benchmark.

To increase the number of children achieving the National Benchmark, two key elements are required:

1. Aquatic programs should reflect the National Swimming and Water Safety Framework and ensure that essential foundation skills are being taught in the areas of swimming, survival and basic rescue.
2. An increase in the participation rates not only for those already in programs but most importantly for those that do not have access.

As program and training providers in Swimming and Water Safety education, AUSTSWIM and Royal Life Saving decided to focus on the first element for this observational investigation. This involved observing a range of Swim Schools across NSW where children are currently engaged in aquatic programs to gain a snapshot of whether these essential water safety skills are being taught.



...there were  
11 preventable  
drowning deaths  
in the 5-14 year  
age group.

## Aim

As this Water Safety Workshop is conducted over a number of sessions, there are a number of aims to be achieved:

1. To observe a range of Swim School operations in relation to the teaching of water safety skills and report on the findings.
2. To observe the testing of a group of 11-12 year old primary school students against the National Benchmark.
3. To provide some practical activities in the teaching of water safety skills to increase the level of achievement and incorporate them into swimming and water safety lessons.

## Methodology

The observational investigation into the teaching of water safety skills is being conducted over a two part study in order to achieve the aims.

### Part One –

#### Practical observation of teaching water safety skills

Observation was conducted in a range of Swim Schools in NSW. A standard record sheet was developed to monitor what skills were taught and the duration of learning time for those skills.

The Swim Schools were chosen randomly and across a wide range of operations including indoor/outdoor facilities, private/council operations, school/after school and vacation programs and in a range of varying pool depths/lengths.

It was decided to conduct this observation anonymously rather than 'announce' the observation study to the Swim School operators and teachers to ensure that the teaching of lessons would not be adjusted. All information and data collated has been kept confidently and only the findings will be reported.

The focus of the observation was on the teaching of water safety and survival skills as this is the area generally to be believed where children are not achieving. These skills included:

- Safe entries and exits
- Floating
- Sculling
- Treading water
- Rescue
- Survival strokes

### Part Two – Water safety workshop

The water safety workshop comprises of 3 sessions; two water based practical sessions and one theory session.

**Practical Session 1:** observation of a group of 11-12 year olds tested against the National Benchmark.

This practical session will observe the swimming and water safety skills against the National Benchmark of a group of 11-12 year olds from a local primary school.

The criteria for this random selection of students will be age (11-12 years, that is year 5 or 6), and have a swimming ability (that is, they are not non-swimmers). These students have not been observed previously to this practical session. There may be some restrictions or modifications to the skills due to the teaching facility and the time available to demonstrate the skills.

The children will be asked to demonstrate competency in the following skills:

#### Continuous Swim

- 4 x laps of Freestyle
- 2 x laps of Breaststroke
- 2 x laps of Survival Backstroke
- 2 x laps of Sidestroke

#### Personal Survival Skills

Tread water for as long as they can to a maximum of 2 minutes

Demonstrate sculling

Demonstrate floating

Demonstrate a throw rescue with the use of an aid

The workshop presenters will provide the Must See Guides for the above skills as a guideline for assessing competence.

**Practical Session 2:** demonstration of a range of practical activities to teach essential water safety skills.

This practical workshop will provide a toolbox of skills, activities and games that may be used in a class situation to improve the abilities of a range of water safety skills and to guide swimming and water safety teachers to incorporate these activities into their everyday programs.

Activities will focus on treading water, sculling, floating, throw rescues.

Session attendees will also be provided with tip sheets which will include stroke progressions and stroke correction guidelines for the Survival Stokes.

#### Theory Session:

The theory session will include a debriefing from the Benchmarking practical session and a discussion on the findings and possible solutions of the data collected through the observational investigation in teaching water safety skills at a range of NSW Swim Schools.

#### Conclusion

Additional notes will be provided at the workshop sessions to guide participants through the workshops and observations.

# ROCK FISHING

## LOCATION(S):

1. Novotel Hotel Brighton Beach, Endeavour Ballroom 3
2. Beachfront, Opposite Hotel on Grand Parade

## AIM

### “Train the trainer”

To provide an insight into the current rock fishing safety programs around Australia and allow participants better understand the principles of safer rock fishing and practical safety measures to enable them to deliver effective rock fishing safety programs and advice.

## WORKSHOP CONTENT

### Part 1

- Discuss the rock fishing related presentations and papers further to understand the current challenges facing rock fishing safety education including cultural and language barriers and attitude towards safety
- Receive a session of a current rock fishing education program including advice on how to overcome potential challenges already discussed
- Discussion of suggestions and potential improvements to the approach to rock fishing safety and education
- Examine rock fishing safety initiatives in New Zealand including the approach, lessons learned and potential applications to the Australian context

### Part 2

- Familiarisation with the current rock fishing safety equipment including alternatives, how they are used and where they are available
- Familiarisation with the current public rescue equipment (PRE) options including Angel Rings, the Silent Sentry system and emergency beacons.

## FACILITATORS

1. Matthew Thompson, Coastal Safety Services Manager, SLSA
2. Bernadette Matthews, Manager – Research & Injury Prevention, LSV
3. Stan Konstantaras, National Safety Officer, Australian National Sportfishing Association
4. Nathan Hight, Surf Life Saving New Zealand



...practical safety measures to enable them to deliver effective rock fishing safety programs and advice.



Risk management is used for ensuring safety, from the work place to the home environment.

# AQUATIC RISK MANAGEMENT

## SIGNAGE FOR WATER SAFETY – RISK MANAGEMENT STYLE

ELLIE DIAZ

*Regional Risk Manager, Statewide Mutual*

Risk management is used for ensuring safety, from the work place to the home environment. Risk management is the process of identifying and assessing hazards and using this information to control the risk through a coordinated and economical application of resources. Strategies range in effectiveness from removing the hazard to warning people of the presence of the hazard.

This workshop will discuss the aspects of water safety in a risk management context, focusing on providing appropriate warning of hazards present in or around water. Signage is the cheapest form of supervision that an organisation can use and can be an effective and complimentary strategy to the overall approach of managing risk at a public facility.

In NSW under the Civil Liability Act 2002, owners or managers of public facilities owe a duty of care to users of such facilities and this duty extends to the duty to warn of hazards so the user can make an informed decision on whether to accept the risks or not.

The workshop will discuss the link between water safety and signs in a risk management context and provide the participants with a practical methodology on how to best determine the appropriate type signage for any public facility.

# DROWNING IN ASIA.

## CAN AUSTRALIA REALLY MAKE A DIFFERENCE?

**JUSTIN SCARR**

*Chief Operating Officer, Royal Life Saving Society – Australia  
Drowning Prevention Commissioner, International Life Saving Federation*

The global burden of drowning has been the focus of much discussion among lifesaving and drowning prevention agencies in recent years. In 2007 the International Life Saving Federation published its World Drowning Report<sup>i</sup>, which pointed to the challenges of collecting and analysing drowning data, particularly that from developing countries.

Data published by the World Health Organisation<sup>ii</sup> estimates that around 400,000 people drown each year. This estimate has significant limitation as it excludes cataclysms (floods), water and other transportation incidents and relies almost entirely on government reporting systems via the Global Burden of Disease database.

At past Australian Water Safety Conferences, presentations from The Alliance for Safe Children's (TASC) Ambassador 'Pete' Peterson (AWSC 2006) and Dr Mike Linnan (AWSC2008) have outlined mortality data from seven developing countries in Asia that showed among other things that drowning is rarely collected in government death registries. Using a community survey methodology to conduct large population studies house by house, results showed drowning to be the leading cause of death among children 1-17<sup>iii</sup>.

The implications for global estimates are significant. A crude comparison of child drowning mortality in Bangladesh as reported by WHO, and that revealed by the Bangladesh Health and Injury Survey which counted drowning in the community, shows a range from 3,800 (WHO)<sup>iv</sup> to 17,000 (BHIS)<sup>v</sup>, or a multiple of about 4 ½ times based on the rate per 100,000 (7/100,000 versus 30/100,000). This multiple does vary but is generally consistent in each of the countries in the UNICEF/TASC Child Injury Mortality Series.

Apply this new knowledge to create a revised model for estimates and include drowning related to flooding and transportation, and could the global burden of drowning be over 1 million deaths every year? Just as in other diseases and injuries, consider morbidity, and where does drowning rank? Clearly, the author is an advocate and not an epidemiologist, and the purpose of this paper is actually to address the question of whether Australia or Australians can really make a difference. On this question, we must draw from our achievements to date in developing and advocating a response to this issue.

In partnership with TASC and local partners including Dr Aminur Rahman of the newly formed International Drowning Research Centre - Bangladesh, Royal Life Saving has developed and is testing the use of survival swimming as a drowning prevention strategy for school aged children in developing countries. SwimSafe<sup>v</sup>, a variant of Swim and Survive and designed specifically for this context, is in operation in Bangladesh, Thailand and Vietnam, and the results, to be published later this year, show an overall reduction in fatal drowning by one third after only three years of operation. However, before we learn to swim organisations, entrepreneurs and teachers amongst us rush to the airport, it is important to note that in order to achieve 75% coverage of the child population in a country like Bangladesh we will need to teach over 7 million children every year over the next five years. Extend that across Asia, where there are 850 million children 5-17 years old<sup>vi</sup> at risk of drowning, and the need far outstrips our capacity as lifesavers and swim teachers. Our plan clearly needs to influence policy, engage donors, establish infrastructure and build long term sustainable systems so the overwhelming needs can be addressed in a systematic way.



The global burden of drowning has been the focus of much discussion among lifesaving and drowning prevention agencies in recent years.

**Justin Scarr**, Chief Operating Officer, Royal Life Saving Society – Australia. Drowning Prevention Commissioner, International Life Saving Federation

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If we were to achieve this, we will have still missed the group of children who suffer the greatest burden, those aged under five. Whilst the debate about the real drowning prevention impact of swimming lessons for children as young as 6 weeks rages in Australia; ratios, teaching skills and availability of venues make this largely irrelevant to all but the wealthiest families in Asia.

Community advocacy programs such as Keep Watch<sup>vii</sup> have been re-reviewed and adapted by our partners to provide more cultural and economically meaningful strategies in supervision, barriers, safe play areas and community skills in emergency response in order to reduce drowning. Just as in Australia, passive communication strategies have less impact than direct approaches including personal advocacy and delivering interventions in partnership with communities<sup>viii</sup>.

Stepping further into the Australian experience, we must ask ourselves whether having a strong national strategy to reduce drowning such as the Australian Water Safety Strategy<sup>ix</sup>, is more or less important than having organisations that take preventing drowning as a core mission. In the absence of such organisations and such a strategy where should we start?

The International Life Saving Federation is the world authority in the global effort to prevent drowning. It currently does this through its member organisations, lifesaving agencies from over 80 countries. In the absence of such a member, or in the presence of low capacity lifesaving agency, it must use advocacy strategies such as the World Conference on Drowning Prevention 2011 to build a call to action that urges all stakeholders to influence drowning prevention policy, fund research and sustainable practice, and build capacity at community, national and regional levels.

Developing and supporting this call to action is vitally important; as is having a framework for collaboration. In developing this we must take our lead from other large scale public health and development issues. Take for example the global burden of Malaria; the World Malaria Report 2009<sup>x</sup> estimated 243 million cases worldwide that led to approximately 880,000 deaths annually. Attributed in part to the Global Fund, the Global Malaria Programme and the prioritisation of the issue by large donor countries, international funding commitments for malaria prevention and control increased from around US\$300 million in 2003 to US\$1.7 billion in 2009. Whilst funds committed is just one success measure, this coupled with the advances including the identification and tracking of indicators and the adoption of interventions, make this a key and aspirational example for the international drowning prevention community.

The Australian Government has recognised the importance of this emerging issue and through Australian Agency for International Development (AusAID) is helping to establish the International Drowning Research Centre in Bangladesh and is supporting the World Conference on Drowning Prevention 2011. In Thailand, the Australia Thailand Institute is supporting a pilot SwimSafe program, aimed at building local capacity.

Consider that the premise that over 1 million people drowning each and every year is true or even close to the mark, how do we initiate a response capable of reaching the scale necessary to have an impact? Australia and Australians have some natural advantages in rising to this challenge; we have experienced lifesaving organisations, skilled people, a community that values a culture of drowning prevention, and we live in close proximity to the region with the greatest burden. We have much work to do.

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# OPEN FORUM

## EFFECTIVE COMMUNICATION FOR WATER SAFETY AND DROWNING PREVENTION

### AIM

To facilitate a structured, informative and entertaining debate that maximizes the expertise of key speaker, engages the wider audience to examine what is effective communication and how to undertake effective communication to improve water safety and prevent drowning.

### RATIONALE

Effective communication is a vital component of ensuring people receive, understand and then use water safety messages to keep themselves and those in their care safe. This session aims to explore how we communicate water safety and drowning prevention messages, actions, activities to the general public, government and even the water safety community. A range of people with a background in water safety and drowning prevention will sit on the panel and be asked their professional and personal opinion on a range of questions related to communication.

### METHODOLOGY

The discussion will be conducted in three sections; oration; challenge and summary.

The oration section will involve 5-6 speakers from a range of backgrounds presenting a short piece about what they think is effective communication, examples of what they see as effective communication and thoughts on how we as a 'water safety' community could communicate more effectively.

The challenge section will consist of a series of questions from the facilitator, as well as questions from the audience about effective communication. These issues will be explored to elucidate a better understanding of what is effective communication, as well as providing possible directions for improving communication about water safety and drowning prevention in Australia.

The facilitator at the end of the session will provide a summary of the discussion and the points raised about what makes communication effective as well as final comments from the panel about their thoughts around the discussion.

### THE PANEL

The panel will be facilitated by Mr Justin Scarr, Chief Operating Officer, Royal Life Saving Society - Australia and Drowning Prevention Commissioner, International Life Saving Federation.

#### Panel members will include:

- Mr Peter George AM, National Director of Lifesaving, Surf Life Saving Australia and Life Saving Commissioner, International Life Saving Federation
- Mr Kirk Marks, Chairman AUSTSWIM
- Dr Richard Franklin PhD, National Manager Research and Health Promotion with the Royal Life Saving Society – Australia
- Mr Michael Morris, Managing Director, Samuel Morris Foundation
- Dr Kevin Moran, Principal Lecturer in Health and Physical Education, Faculty of Education, The University of Auckland.



... effective communication is a vital component of ensuring people receive, understand and then use water safety messages to keep themselves and those in their care safe.



## BACKGROUND

The Australian Water Safety Strategy 2008-2011 (the Strategy) was developed by the Australian Water Safety Council (AWSC) in consultation with other partners/stakeholders as a call to action for water safety agencies, State and Territory AWSC member groups, governments and the community to prevent drowning and improve water safety education.

The Strategy builds upon previous Australian Water Safety Plans and has the overarching aim of achieving a 50% reduction in drowning deaths by the year 2020. Although this is an ambitious undertaking, the AWSC believes this can be achieved through a strong, collaborative and evidenced based approach.

## POSTER PRESENTATIONS:

# AUSTRALIAN WATER SAFETY STRATEGY – AN OVERVIEW

## AUSTRALIAN WATER SAFETY COUNCIL

### ABSTRACT

#### Development

The Strategy was developed by the AWSC in collaboration with water safety agencies, government and other groups with an interest in preventing drowning. The development process was multi-faceted utilising a survey to stakeholders, development workshops, working groups, circulating several drafts for feedback from stakeholders before consolidating feedback received and publishing of the final strategy document.

#### Goals

The Strategy is comprised of 14 goals around 4 key priority areas. These are:

#### Adopt a life stages approach

1. Reduce drowning deaths in children under five
2. Reduce alcohol related drowning deaths, particularly in men aged 18-34
3. Reduce drowning deaths in older people

#### Address high risk locations

4. Reduce rural and remote drowning deaths
5. Reduce surf beach drowning deaths
6. Reduce drowning deaths in home swimming pools

#### Meet key drowning challenges

7. Reduce drowning deaths attributed to high risk recreational activities
8. Reduce drowning deaths in high risk populations
9. Reduce the impact of climate change and extreme weather on drowning deaths

#### Drowning prevention pillars

10. Build systems that support safe aquatic recreation venues
11. Strengthen the skills, standards and contribution of our drowning prevention people
12. Strengthen policies, legislation and standards related to water safety
13. Foster collaborative approaches to drowning prevention
14. Extend the drowning prevention evidence base

#### Communication and Monitoring

The Strategy includes a plan for facilitating communication of the Strategy to key stakeholders as well as an implementation planning template to encourage water safety agencies, key stakeholders and Government to align their plans to this Strategy. An evaluation of progress made against the Strategy's goals will be conducted prior to the end of 2010.

#### Acknowledgements

Principal contributors to the plan were Justin Scarr, Dr Richard Franklin PhD, Peter Agnew, Ben Whibley, Rob Bradley, Brett Williamson OAM, Amy Peden and Tarina Rubin. Feedback was sought and received from a range of stakeholders across Government, water safety agencies and industry.



Australian Water Safety Strategy 2008 - 2011

Reducing drowning deaths by 50% by 2020



# PREVIEW OF THE FINDINGS OF THE INTERNATIONAL TASK FORCE

## ON OPEN WATER DROWNING

Quan, L.<sup>1</sup>, Bennett, E.<sup>2</sup>, Moran, K.<sup>3</sup> (co-chairs)

<sup>1</sup> Seattle Children's Hospital/University of Washington, USA

<sup>2</sup> Seattle Children's Hospital, USA

<sup>3</sup> The University of Auckland, New Zealand

### International Task Force Members

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Secretariat: Tansik M (USA)

### Introduction

Globally, many organisations have attempted to address the risk of drowning associated with aquatic recreation by promoting a diverse plethora of drowning prevention messages. This diversity reflects the multifaceted nature of the drowning problem. While site-, activity-, and group-specific water safety messages are valued components of any targeted promotion, their multiplicity has the potential to obfuscate critical messages or confuse intended recipients. Preliminary discussion among drowning prevention advocates at the World Water Safety Conference in Oporto, 2007, suggested that messages could be contained within simplified generic messages applicable to all settings. The Task Force was formed to establish guidelines for the promotion of key messages related to open water drowning prevention. This paper presents a review of key findings and is intended to stimulate discussion among water safety delegates about the application of the generic water safety messages locally, nationally, and globally.

### Method

The consensus process consisted of teleconference calls and ongoing e-mail debate over a period of 18 months, as well as informal discussion at international conferences. From the preliminary workshops and initial rounds of teleconferencing among Task Force members, a list of water safety messages was compiled in a central database. Messages specific to water sites (such as river currents) were separated out of the main list. The messages were then divided into two categories: Care of Self and Care of Others. As a consequence of this process, 65 messages were included in the Care of Self database and 66 in the Care of Others database. Using a modified Delphi technique that consisted of two rounds of ranking the messages, the 18 Task Force members reduced the number of messages by 50%.

Two subsequent rounds of voting occurred to approve the wording, combine messages, delete messages due to lack of supporting information and create the final list of messages. All final messages received at least 80% approval by Task Force members and two final rounds of draft documents were sent for review and feedback.

### Results

From an original compilation of over 60 messages, the Task Force agreed on 16 key messages that would foster open water drowning prevention. Learning swimming and water safety survival skills was the priority message in both Care of self and Care of others categories. Other strongly supported messages in Care of self messages were 'always swim with others', and 'obey all safety signs and warning flags' In the Care of others category, 'swim in areas with lifeguards', and 'always provides close and constant attention to children and weak swimmers' were also highly rated.

### Discussion

The recommendations have established informed, consistent, and concise messages that promote safe recreational use of open water. It is hoped that they will improve the clarity of communication between drowning prevention organisations and the public they serve as well as provide a framework for safety messaging that is applicable to a range of communities and settings with the ultimate goal of saving lives.

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# POOL SAFETY CALENDAR 2010

## GRANT SYMES

*General Manager, Protector Aluminium*

### Background/Introduction

A calendar is an ideal medium to communicate to households as it is viewed daily by the recipient. The aim of the Water Safety Calendar is to have zero drownings in Australia. The main objective, however was to provide a practical household tool that raises awareness about pool safety in a visually appealing format. We teamed with "Kids Alive Do the Five" Laurie Lawrence, to put a credible "face" to the calendar and drive home the anti-drowning message.

At a time when drowning is the greatest cause of accidental death in children under five across Australia, it is imperative every effort is made to put an end to these horrific statistics. As a designer/distributor of pool fencing, Protector Aluminium has taken on a social responsibility to increase pool safety awareness to the public. The Water Safety Calendar was developed in an attempt to "reach the masses" by having it distributed by a major retail outlet.

The calendar is being distributed by national hardware retailer Bunnings at every store in Australia. It's given to customers who purchase Protector Aluminium's products, along with the company's other clients.

The primary target group for this calendar is women aged 27-40 who have young children. This group of women are primarily concerned with their child's safety in and around water.

After speaking to those within the industry and other members of the public, we established a lack of pool safety awareness within the community. Time constraints did not allow us to invite the public to submit images for the calendar, however, the aim next year is to host a photography competition with the top 12 images being used in the 2011 calendar.

### Methods

The first step was to work in partnership with Laurie Lawrence and compile a list of useful pool safety tips. Laurie Lawrence was also imperative in the design process, assisting with the selection of images that were visually appealing but relevant to the calendar's purpose. Bunning's also agreed to an exclusive relationship to distribute the calendars in the initial phase, creating a means of distribution to reach our target market. From start to finish the project took four (very quick) weeks.

### Results/Evaluation

Once the calendars are launched in January 2010, several methods of measurement will be implemented. The number of calendars distributed will indicate how many people have "read" the safety messages.

We will also survey the recipients and establish how well the messages were received and whether the recipients have made changes to their swimming behaviours. Media coverage will be monitored along with hits to the "Kids Alive do the Five" and 'Protector Aluminium' websites.

The short term benefits of the calendar will be an immediate awareness of pool and water safety. The long term benefits are expected to include an increase in swimming lesson participation, CPR lessons, improvements to pool fencing and a reduction in tragic drowning.

We anticipate the project (once activated in January) will achieve its objectives which include;

- Eliminate drowning in Australia!
- Increasing pool safety awareness
- More participation in swimming lessons
- To set the standard in pool fencing.

To have national identity; Laurie Lawrence on board to support the project was a coup for the project. To have national retailer Bunnings jump on board was also a very rewarding.

### Discussion

If the calendar can prevent just one drowning - through increased water safety awareness - then it has been a huge success. Education is the key to reducing drowning statistics and the calendar is an informative tool which serves this purpose. This calendar is the foundation for other calendars that will be produced in the future.

In creating this calendar we hope to have started a project which will see other groups and organisations joining the crusade against childhood drowning.

The most important lesson learned was that it is incredibly easy to save lives if simple steps are followed. We also found a need for greater pool safety awareness within the community.

The main challenge we faced in coordinating this project was Laurie Lawrence's busy schedule with photo shoots and meetings. We overcame these time constraints by being flexible and working around his travelling itinerary.

Fortunately, after making the decision to produce the calendar, the road to completion was very easy. The ultimate goal of promoting pool and water safety is a universal one therefore everyone put in 100 percent to produce an excellent final product.

We will endeavour to have more community involvement in the selection of images for next year's calendar. We hope to have Laurie Lawrence's involvement for many years to come as he epitomises water and pool safety and is continually abreast of changes to safety standards.

One piece of advice we would offer to others looking to take on such a project would be to always work ahead of deadlines to ensure they are met. Try to be strategic about who you partner with so it can benefit all parties.

### Conclusion

Through community consultation and discussions with those in the field we discovered the following still exists at some homes;

- Inadequate fencing or no fencing
- Lack of gate security/shutting
- Lack of effective water safety skills
- Inadequate supervision
- Lack of resuscitation skills

### Acknowledgements

- Laurie Lawrence
- The Buzz PR
- Mindbomb

# WATER SAFETY EFFORTS FOR PUBLIC AQUATIC FACILITIES IN SINGAPORE

### SIEW KWAN CHIA

*Singapore Sports Council*

The Singapore Sports Council (SSC) manages more than a hundred sports facilities all over the island state. Out of these, 24 of them are aquatic facilities, ranging from conventional-types to play featured pools.

In this presentation, the transformation of Singapore's public aquatic facilities and the water safety efforts that are in place will be detailed.

SSC's water safety efforts focus on people, equipment, environment and processes and are achieved through education and outreach, capability building, continuous engagement and surveillance initiatives.

These efforts are succinctly reflected in the Sports Safety Division's tagline - Think Safe, Play Safe, Stay Safe.

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# THE GREY MEDALLION

## NEW INITIATIVES IN WATER SAFETY – OUTREACH TO HIGH RISK GROUPS

**DR RICHARD FRANKLIN PhD**

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**PENNY LARSEN**

*National Manager Training and Education,  
Royal Life Saving Society - Australia*

**PROFESSOR JOHN PEARNS**

*National Medical Advisor,  
Royal Life Saving Society - Australia*

**SUNNY FUNG**

*Administration Officer, Royal Life Saving Society - Australia*

### Introduction

A forgotten population in water safety is the older generation (55+ years). In Australia, similar to other developed nations we are seeing our population ageing. With the ageing population there are new challenges for injury prevention.

Approximately 60 people aged over 55 years drown in Australian waterways each year. If prevention strategies are not developed and implemented to address this problem, drowning in older people could increase by 40% through population growth alone by 2020.

To address this need Royal Life Saving Society – Australia (RLSSA) set out to develop a program for older Australians to reduced drowning deaths and increase participation in aquatic activities. As part of the development of this program an examination was undertaken of: factors that contribute to drowning and prevention; impact of lifestyle and changing demographics; current aquatic knowledge, skills and activity; and their views and opinion about aquatic activity, and water safety.

### Methods

The Grey Medallion was developed following examination of drowning data, extensive discussion with older people about their aquatic activities, knowledge and attitudes and an examination of the skills required by older Australians for water safety.

### Results

The rate of drowning per 100,000 people aged 55+ years ranged from 1.4 to 2.1. Males were more likely to be victims. Common activities prior to drowning were walking and swimming. Alcohol and drugs were only involved in a small number of cases (13.1%). Over half (53.6%) of the victims were alone prior to drowning. There is very little research in the area of older person drowning death and aquatic usage.

The focus groups identified a number of barriers to participation in aquatic activities and the large involvement with aquatic activity currently being undertaken from swimming to minding children. The telephone survey of 834 people older Australians provided information about aquatic usage, understanding of water safety, current skill levels, and barriers to participation.

### Discussion

Older Australians acknowledged that their understanding of water safety, aquatic hazards, resuscitation techniques, and rescue skills was not good and expressed an interest in improving their understanding of water safety.

The program was developed to be delivered in a flexible manner to reach all high risk groups and provide a pathway to regular aquatic activity and learning water safety. There are four components to the Grey Medallion; water safety knowledge, resuscitation and emergency care, aquatic exercise and personal survival and lifesaving skills. To date over 30 courses have been delivered around the country. Royal Life Saving believes that this initiative will help in reducing drowning deaths of older Australians and increase the number of people in the community with resuscitation, lifesaving, and water safety skills.

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# OPPORTUNITIES FOR AQUATIC INJURY PREVENTION THROUGH RISK MANAGEMENT

**ADAM WEIR**

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**NORMAN FARMER ESM**

*General Manager Strategic Development (Domestic and International), Surf Life Saving Australia*

## ABSTRACT

### Issues

1. The risk of drowning (fatal and non fatal) on the coast has many contributing factors
2. Risk management concepts of hazard, uncertainty and opportunity based risk collectively provide opportunities for drowning prevention.

### Description

In many countries of the world people have settled by the coast. For example in Australia more than 85% of the population live near the coast and our tourist beaches alone receive an estimated 55 million visitations every year. The 56,000km coastline of Australia, while an attraction for living and visiting, has it inherent largely unpredictable risk.

Risk assessment techniques that use a range of data inputs to underpin risk analysis and evaluation are vital to addressing public safety treatments at beaches and along the coast.

Coastal risk assessment is now a vital process for identifying, analysing and evaluating risk to human life on beaches and the coastline.

### Lessons learned

Injury and drowning prevention in the aquatic environment can be best addressed by adopting risk management techniques, actions and mitigation strategies developed through the integration of hazard, opportunity and uncertainty based risk concepts, resulting in safety solutions to all levels of government, coastal management agencies, private developers and tourism operators.

### Next steps

Surf Life Saving Australia is constantly developing research projects to identify what improvements have been made as a result of Coastal Risk Assessment. SLSA is now investigating how Coastal Risk Assessments and Audits impact on the occurrence of injury and death on the Australian Coastline and how this can then be applied around the world.

The next step is to trial these practices in least developed and developing nations to validate the hypothesis that coastal risk management concepts, techniques and actions are effective in drowning prevention irrespective of geographic, demographic and socio-economic issues.

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# COOL POOL RULES

**MARCELLE FREDERICK**  
*Aquatic Education*

**Background / Introduction**

Child and carer education is vital to reduce drowning statistics.

To compliment the cool pool rules a poster is being developed to reinforce the message of safe behaviour when in and around water.

**Discussion**

Safe Behaviour in and around waterways must be taught and reinforced to ensure the message is clear to children.

The water safety message must be clear and consistent. Children develop habits based on practise. Often the water safety message is unclear and confusing to children and rules are regulations are not always consistent.

**Conclusion**

In an attempt to reduce the drowning in under 5 years, our cool pool rules set a precedence, are reinforced daily and safe behaviour around water becomes a habit of a lifetime.

We believe the approach needed starts with the education of children and carers and the basic principles of safe practice need to be adopted and reinforced.

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Conference delegates will have the opportunity during breaks (i.e. morning tea, lunch and afternoon tea) to mingle amongst the display booths/tables and to ask questions to those directly exhibiting.

# TRADESHOW / EXHIBITORS

## ASCTA including its divisions, SwimED and Swim Australia

The Australian Swimming Coaches and Teachers Association (ASCTA) is the peak professional body for swimming Coaches and swimming and water safety Teachers and is committed to the development of aquatic skills as an essential life skill and component of health, fitness and competitive sport. ASCTA is dedicated to developing world leading practices in the education, accreditation and professional development through on-going support for swimming Coaches and swimming and water safety Teachers.

Swim Australia’s mission is to develop “learn-to-swim” in Australia to its full potential resulting in all Australians learning swimming and water safety in an enjoyable, safe way.

SwimEd is the education and accreditation division of ASCTA. SwimEd continuously strives to improve the standards of practice and service in the aquatics industry.

ASCTA is passionate about reducing the drowning toll and is a member body of the Australian Water Safety Council.

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## AUSTSWIM

AUSTSWIM, a not-for-profit organisation also known as the Australian Council for the Teaching of Swimming and Water Safety, is the national peak Industry body for the training and licensing of teachers of swimming and water safety. Over the past 31 years of operation AUSTSWIM has gained an outstanding national and international reputation for the training of high quality teachers of swimming and water safety; licensing over 125 thousand general teachers of swimming and water safety with over 20 thousand of these completing extension AUSTSWIM accreditations in specialist areas including; teaching swimming and water safety to Infants, adults, people with a disability and bridging the gap between learn to swim and competitive strokes. AUSTSWIM also have a significant reputation amongst swim schools with currently over 600 recognised through the AUSTSWIM swim school recognition scheme.

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## INSURANCE MADE EASY

Specialists in the Aquatic Industry. We operate Insurance programs Australia-wide for AUSTSWIM and Australian Sports Commission After School Care. Other localised programs for Royal Life Saving and Aquatics and Recreation Victoria. Combined professional indemnity and public liability for swim teachers/schools, trainers and coaches. Full insurance packages incorporating property for facility operators/owners. All other sports and/or businesses can be accommodated.

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## LAERDAL PTY LTD

Laerdal Medical is dedicated to helping save lives with products for CPR training, Airway Management, Advanced Life Support Training, Spinal Motion restriction, Trauma Training, Monitoring, Defibrillation, Patient Simulation made for using traditional basic, intermediate and advanced training techniques.

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## PROTECTOR ALUMINIUM POOL FENCING FOR LIFE!

Protector Aluminium is Australia and New Zealand's leading pool fencing company. Continually setting the standards in fencing; Protector Aluminium initiated the 6 point weld on all their aluminium pool fencing range and in 2010 set the industry bar even higher by offering a Lifetime Manufacturer's Warranty on the range.

Established in 1991 the company has grown from one man's initiative to an Australia success story. Protector Aluminium has a strong focus on customer service and an outstanding team of over 36 staff based out of the one factory on the Sunshine Coast.

Protector Aluminium is the largest supplier of fencing around Australia supplying to contractors and retailers only. Their product is solely designed to stop children drowning, a vision that has seen them become the only fencing company endorsed by Laurie Lawrence's Kids Alive - Do The Five. Protector Aluminium has a staunch commitment to preventing pools drowning throughout Australasia and embarked on a pool safety awareness strategy in partnership with Laurie Lawrence with their aim to have zero pool drowning from children aged 0 -5.



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# ROYAL LIFE SAVING SOCIETY - AUSTRALIA

Royal Life Saving Society – Australia works to prevent drowning and facilitate healthy, active lifestyles by equipping all Australians with water safety skills. There is no one reason Australians drown, so there is no one simple solution. For that reason, our approach needs to reflect the complexity of the range of issues that result in drowning deaths.

To make sure we reach all Australians, whoever they are and wherever they live, we tackle these goals using an all encompassing approach, designed to meet our stakeholders’ diverse needs, beliefs and values.

Royal Life Saving is driven by:

- Innovative, reliable, evidence-based health promotion and advocacy;
- Strong and effective partnerships;
- Quality programs, products and services;
- Continuing as a committed national organisation.

For the past 115 years, Royal Life Saving has worked to harness the strengths of the communities we work with to reduce drowning and turn everyday people into everyday community lifesavers. As a dynamic, not-for-profit organisation, our tangible areas of activity include:

- Advocacy and awareness-raising
- Education
- Training
- Health Promotion
- Aquatic Risk Management
- Community Development
- Research
- Lifesaving Sport
- Leadership and Participation
- International partnerships.

Our guiding values are safety, quality, integrity and a humanitarian tradition. To ensure we stay in tune with the needs of the diverse communities that make up Australia, we maintain an office in every State and Territory capital city, as well as a network of regional offices.

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# SURF LIFE SAVING AUSTRALIA

Surf Life Saving Australia (SLSA) is Australia’s major water safety and rescue authority and is one of the largest volunteer organisations in the country. Our mission is “to provide a safe beach and aquatic environment throughout Australia.”

SLSA and its state centres provide patrol services on 400 of the 11,560 beaches around Australia’s 36,735 km of coastline.

In addition to this core service and responsibility, SLSA also contributes to the community by:

- Training volunteer surf lifesavers and paid lifeguards to undertake rescues, administer first aid and take preventative actions to keep our beaches safe;
- Providing helicopter, jet and offshore rescue boat services;
- Developing and implementing community and school education programs, including to regional and rural communities;
- Providing Australian Coastsafe Services for coastal risk management and assessment;
- Providing health and fitness opportunities for wellbeing;
- Managing and delivering surf sports events, including the Australian Surf Life Saving Championships.

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For more information about SLSA, visit [www.slsa.com.au](http://www.slsa.com.au)

For more information about beach and coastal safety visit [www.beachsafe.org.au](http://www.beachsafe.org.au)



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ABSTRACTS  
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