**Background**

The Victorian Water Safety Assembly (VWSA) is a collective of aquatic industry, Community Issue Based Working Groups (CIBWG) committed to drowning prevention, led by Life Saving Victoria (LSV). The assembly meets periodically to review the Victorian Water Safety Strategy and ratifies that the CIBWG's are addressing the primary drowning prevention issues in the state.

The CIBWG's act as a consultative forum and subject matter experts on issue specific drowning and injury topics, that arise from the annual Victorian Drowning Report. The CIBWG's are made up of the major water safety and sporting groups and related government agencies. Their focus is on the presentation of key water safety issues to governments, industry and the community.

Life Saving Victoria (est. 2002) is an initiative of the Royal Life Saving Society Australia Victoria Branch (est. 1904) and Surf Life Saving Victoria (est. 1947). Life Saving Victoria is the peak water safety body in the state of Victoria.

Life Saving Victoria’s mission is to prevent aquatic related death and injury in all Victorian communities and has the vision that all Victorians will learn water safety, swimming and resuscitation, and be provided with safe aquatic environments and venues.

**Examples of Current Community Issue Based Working Groups**

**Play it Safe by the Water (Media and Communication)**
- LSV, Surfing Victoria, Aquatics & Recreation Victoria, Swimming Victoria, Australian Sailing, Kidsafe Victoria, Canoeing Victoria, AUSTSWIM, Triathlon Victoria, Dragonboat Victoria, Kiteboarding Australia, Victorian Recreational Fishers, YMCA, Belgravia Leisure, Department of Justice and Regulation (Strategic Communications Branch), Maritime Safety Victoria, and Parks Victoria.

**Victorian Swimming Pool and Spa Safety Committee**
- LSV, Swimming Pool and Spa Association of Victoria, Victorian Building Authority, Municipal Association of Victoria, Kidsafe Victoria, and the Victorian Municipal Building Surveyors Group

**Yarra River Inland Waterway Drowning Prevention Committee**
- LSV, Parks Victoria, City of Melbourne, Victoria Police, Tourism Victoria, and Maritime Safety Victoria

**Platinum Pool Steering Committee**
- LSV, YMCA, Belgravia Leisure, and facility representatives from council owned pools.

**AUSTSWIM State Advisory Committee**
- AUSTSWIM, LSV, Belgravia Leisure, YMCA, and facility representatives from council owned pools.

*CIBWG are initiated and completed to meet the needs of the current aquatic environment determined by the annual Victorian Drowning Report.
Foreword by Minister

Our state has unique and pristine waterways. In Victoria we share the many benefits, both physical and emotional, that are gained by being in, on, or around water. With these benefits comes a cost that we need to recognise and address.

It is through the aquatic community continuing to collaborate and advise government that we are able to set a strategic pathway in drowning prevention that is world’s best practice.

The aquatic community plays an important role in the emergency management field of drowning prevention. This community needs to be at the centre of what government addresses as it aims to prevent these tragedies. It is only through working together that we can mitigate the risks that claim the lives of our fellow Victorian’s.

This iteration of the Victorian Water Safety Strategy, built off the back of the Australian Water Safety Strategy 2016-2020 and recommended as a key action by the World Health Organization (Global Report on Drowning 2014), clearly identifies those areas that the Victorian Water Safety Community needs to address. I would ask that all partners in the aquatic community commit the appropriate resources to this plan. It is only through recognising that most drownings are preventable that we can start to address the risks in a coordinated manner.

All Victorian’s should have the opportunity to celebrate the wonders that a water environment can bring to their lives. To achieve this they must have the opportunity to address the associated hazards.

This Victorian Water Safety Strategy has been developed through the good work of Life Saving Victoria in partnership with other aquatic agencies, Emergency Management Victoria and a number of other government departments.

The stable number of drowning, near drowning and water related injuries in Victoria reflects the dedication, skills and resources of community volunteers, professional patrol staff, peak industry bodies and government. I acknowledge there is still plenty of work to do.

I commend all involved and remain committed to the aspirational aim of this plan.

Hon James Merlino
Deputy Premier
Minister for Emergency Services

Introduction

On behalf of the Victorian Water Safety Community, I am pleased to present to you the Victorian Water Safety Strategy 2016-2020. The Strategy for 2016-20 was developed by key aquatic industry stakeholders in consultation with related government departments to provide an overarching approach to drowning prevention and water safety in Victoria.

Success of strategy to date

The aspirational aim for the Victorian Water Safety Strategy (VWSS) remains: To further strengthen and sustain Victoria’s position as the leading State in water safety, program delivery and drowning prevention, with the ultimate goal of reducing fatal and non-fatal drowning and water-related injuries. In line with the national strategy, the overarching goal is to reduce the drowning rate by 50% by 2020.

In 2014, the World Health Organization (WHO) released the first Global Report on Drowning, which called for countries to develop national water safety plans. For Australia, the Australian Water Safety Council developed the fifth Australian Water Safety Strategy 2016-20 (AWSS). This AWSS maintains a focus on three key Priority Areas to achieve drowning reduction: taking a life stages approach; targeting high-risk locations; and focusing on key drowning challenges.

The VWSS 2016-20 also maintains the key Priority Areas of the AWSS but more specifically the highest priorities from a Victorian perspective are:

- Children aged 0-4 years.
- Adults aged 65 years and over.
- Coastal drowning incidents.

The VWSS 2016-20 focuses on a collaborative approach to reducing drowning and aquatic injury by developing community resilience. The overarching framework for developing community resilience is aligned to the Community Engagement Model for Emergency Management, developed by the Australian Emergency Management Institute (AEMI, 2013). This model encompasses five engagement approaches: information, participation, consultation, collaboration and empowerment.

In order to ensure a coordinated and evidence-based approach the development of the VWSS 2016-2020 integrated where relevant: the WHO 10 actions to prevent drowning, the AWSS goals and objectives and actions from the Emergency Management Victoria (EMV) Strategic Action Plan 2015-2018 (SAP).

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The below figure outlines the scope of the aquatic industry in Victoria, from participation, preventative actions and rescues through to employment, estimated economic values and annual direct cost to society of drowning deaths (Figure 1).

**Figure 1: Scope of the Victorian Aquatic Industry.**

*Estimated figures are based on consultation with the Victorian aquatic industry.

**VICTORIAN PARTICIPATION**

- **State Sporting Associations**: 05
- **Agencies**: 17
- **Aquatic Sport Clubs**: 700+
- **Members of Aquatic Clubs**: 300,000+
- **Annual Participation Rate in Aquatic Activity**: 22,000,000+

**Aquatic Environments in Victoria**

- **Coastal Waters**: 2,466 km
- **Inland Waterways**: 3,000 km²
- **Aquatic Industry**: 299

**Economic Value of Aquatic Industry in Victoria**

- **Estimated Value of Yachting**: $10M/year
- **Estimated Value of Lifesaving**: $235M
- **Estimated Value of Surf Industry**: $500M
- **Estimated Value of Fishing**: $2.6B
- **Estimated Value of Marine Industry**: $4.5B

**Direct Costs to the Community from Drowning Deaths in Victoria**

- **54,000+ Employed in Aquatic Industry**
- **2 Million/year Visitations to Swim Between the Flags**
- **100 Million/year Visitations to the Coast**
- **76 Million/year Visitations to the Bays**
- **44+ Million/year Visitations to Piers and Jetties Around the Bays**
- **70+ Million/year Visitations to Aquatic Recreation Facilities**

**Annual Participation Rate in Aquatic Activity**

- **Swimming**: Over 1.4 million regular participants
- **Boating**: 172,000 registered boats, 268,000 boating licences
- **Watercraft**: 300,000+ users (surfers, paddlers etc)
- **Fishing**: Over 8 million expeditions per year
- **Lifesaving**: 32,000 members

**Visitations to**

- **Coastline**: 734
- **Watercourses**: 5000+
- **Public Pools**: 150,000+
- **Patrolled Beaches**: 70
- **Yarra River**: 1000+
- **#3 Blackspot nationally**: 3,000 km²

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- **Boating**: 172,000 registered boats, 268,000 boating licences
- **Watercraft**: 300,000+ users (surfers, paddlers etc)
- **Fishing**: Over 8 million expeditions per year
- **Lifesaving**: 32,000 members
Whose responsibility is drowning prevention?

Drowning prevention requires a multifaceted approach in the form of community based actions, effective policies and legislation and further research (World Health Organization [WHO], 2014). The community needs to develop a culture that owns the issue, recognises its complexity, and makes use of existing resources and networks to tackle the issues. Drowning prevention needs to be coordinated across all sectors and community for an optimal outcome.

Drowning is a shared responsibility for all Victorians and the importance of the role the community plays in ensuring its own safety must be acknowledged. The Community Engagement Framework (Australian Emergency Management Institute [AEMI], 2013) is a key element of the Australian Government’s National Strategy for Disaster Resilience. In line with this framework, those working in drowning prevention and water safety must support the partnership between aquatic agencies and the community via effective community engagement. In an emergency management context, community engagement is defined as ‘the process of stakeholders working together to build resilience through collaborative action, shared capacity building and the development of strong relationships built on mutual trust and respect’ (AEMI, 2013).

In order to achieve resilience within the community, a ‘community safety approach’ is essential. This approach involves agencies actively engaging with the community and empowering people to build resilience (AEMI, 2013). Basing this approach on existing strengths and connections between communities and agencies, communities will play a key role in enhancing their resilience, whilst in no way reducing the responsibility of agencies in drowning prevention efforts.

Examples of agencies currently engaging in a ‘community safety approach’ include:
- Lifesaving club volunteers patrolling beaches.
- School-age children learning practical survival swimming, water safety, lifesaving and emergency response skills.
- Older adults trained in water safety and personal resilience.
- Indigenous water safety surfing program.
- Culturally and linguistically diverse (CALD) communities engaging in water safety education programs and activities.

Reducing drowning deaths by 50% by 2020

Where we are at and what we are striving towards

In 2008, the Australian Water Safety Council established an ambitious aspirational goal of achieving a 50% reduction in drowning by the year 2020. The Victorian Water Safety Assembly has adopted this goal.

Currently, the 10-year average for fatal drowning in Australia is 288 deaths per year, a rate of 1.33 drowning deaths per 100,000 population (Australian Water Safety Council [AWSC], 2016). The figure for Victoria over the same period is 38 deaths per year which equates to a rate of 0.69 fatal drowning deaths per 100,000 population. When comparing the baseline average (2004-07) to the follow-up average (2012-15) the drowning rate (per 100,000 population) in Victoria has decreased by 11% (0.82 to 0.73).

Therefore considerable work is required to reduce the drowning rate to the target 50%. The VWSS outlines clear objectives and actions to help achieve a 50% reduction in drowning by 2020.

Figure 2: Number of drowning deaths and drowning death rate per 100,000 population, Victoria (2004/05 to 2014/15).
Victoria’s progress against the aspirational goal of a 50% reduction in drowning by 2020 is outlined in Table 1 below. While progress has been made in key priority areas, there remain key areas of concern. It is important to note that there may be some overlap between priority areas and goals, for example Priority Area One: 3. Reduce drowning deaths in men aged 25-64 years, overlaps with Priority Area Three: 8. Reduce alcohol and drug related drowning deaths as the majority of alcohol and drug related drowning deaths involve men aged 25-64 years. Furthermore, due to the relatively low number of drowning incidents in some sub-groups, there is potential for the figures to be skewed by a higher number of incidents in any given year.

Table 1: Victoria’s progress against the Australian Water Safety Strategy 2012-2015 goal (i.e. 50% reduction in drowning by 2020) with respect to fatal drowning incidents.

<table>
<thead>
<tr>
<th>Priority Areas and Goals</th>
<th>2004/07 3 Year Average</th>
<th>2012/15 3 Year Average</th>
<th>2020 Target</th>
<th>Progress Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Reduce drowning deaths in children aged 0-14</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>High Concern</td>
</tr>
<tr>
<td>2 Reduce drowning deaths in young people aged 15-24</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>Some Concern</td>
</tr>
<tr>
<td>3 Reduce drowning deaths in males aged 25-64</td>
<td>9</td>
<td>10</td>
<td>4</td>
<td>High Concern</td>
</tr>
<tr>
<td>4 Reduce drowning deaths in people aged 65+</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>High Concern</td>
</tr>
<tr>
<td>5 Reduce drowning deaths in inland waterways</td>
<td>15</td>
<td>14</td>
<td>7</td>
<td>Some Concern</td>
</tr>
<tr>
<td>6 Reduce drowning deaths in coastal waters</td>
<td>14</td>
<td>19</td>
<td>7</td>
<td>High Concern</td>
</tr>
<tr>
<td>7 Reduce drowning deaths by strengthening the aquatic industry</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>Some Concern</td>
</tr>
<tr>
<td>8 Reduce alcohol- and drug-related drowning deaths</td>
<td>9</td>
<td>9</td>
<td>4</td>
<td>Some Concern</td>
</tr>
<tr>
<td>9 Reduce boating, watercraft and recreational activity related drownings</td>
<td>9</td>
<td>13</td>
<td>4</td>
<td>High Concern</td>
</tr>
<tr>
<td>10 Reduce drowning deaths in high-risk populations</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>High Concern</td>
</tr>
<tr>
<td>11 Reduce the impact of disaster and extreme weather on drowning deaths</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>On Track</td>
</tr>
</tbody>
</table>

*Figures include drowning deaths at public swimming pools; **Includes boats and watercraft, rock fishing, fishing and diving; *** Includes Aboriginal and Torres Strait Islanders, people from culturally and linguistically diverse (CALD) backgrounds, international tourists and international students

The key objectives for achieving a reduction in fatal and non-fatal drowning and water-related injuries in Victoria were determined through consideration of international, national and State actions, strategies and guidelines to prevent drowning and build community resilience. This multifaceted approach should inform the development of the most effective objectives to achieve the Strategy’s goal. Within each objective, collaboration and community engagement are key factors. Throughout the report each objective of the VWSS has been linked to the relevant WHO action to prevent drowning and EMV SAP action.

**Drowning prevention actions**

In their Global Report on Drowning, the WHO (2014) recognised that whilst drowning is a leading cause of death globally, it is also a ‘highly preventable public health challenge’. They developed ten evidence-based actions to prevent drowning, with each action considered to be effective, feasible and scalable. These actions can be adapted to match the Victorian settings in which they apply (Table 2).

Table 2: Victorian examples of the WHO 10 actions to prevent drowning.

<table>
<thead>
<tr>
<th>Community-Based Action</th>
<th>Victorian Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Install barriers controlling access to water.</td>
<td>Compliance and monitoring of home pool fencing.</td>
</tr>
<tr>
<td>2. Provide safe places.</td>
<td>Government and community groups providing safer locations. E.g. Swimming between the “red and yellow flags”.</td>
</tr>
<tr>
<td>3. Teach school aged children basic swimming, water safety and safe rescue skills.</td>
<td>Advocacy to include survival swimming and water safety into school curriculum.</td>
</tr>
<tr>
<td>4. Train bystanders in safe rescue and resuscitation.</td>
<td>Advocacy for “Everyday Lifesavers” by learning CPR.</td>
</tr>
</tbody>
</table>

**Effective Policies and Legislation**

| 8. Coordinate drowning prevention efforts with those of other sectors and agendas. | Establishment of Community issue based working groups to address drowning prevention. |

**Further Research**

| 10. Address priority research questions with well-designed studies. | Before School Survival Swimming Program evaluation. |
Depending on what stage of life we are at, we experience new challenges, interests, influences, and physical changes; which expose us to different risks associated with drowning.

In order to prevent drowning incidents and water related injuries we therefore need to target people at each stage of life in different ways. Analysing the trends in drowning within these stages allows for targeted preventative actions to reduce drowning across the lifespan.

A recent study in Victoria identified the characteristics of victims of fatal and non-fatal drowning (Matthews et al, 2016). The study highlighted that the combined fatal and non-fatal drowning rate is highest in children aged 0-4 years followed by those aged 5-19 years and then 65 years and older. Children aged 0-4 years had the greatest risk of both fatal and non-fatal drowning while children aged 5-19 years were more likely to experience a non-fatal drowning incident, and older adults aged 65 and over were more likely to have a fatal outcome.

When comparing baseline to follow-up fatal drowning statistics (Figure 4) it is positive to see a decline in the drowning rate of children aged 0-4 years however with the second highest fatal drowning rate this indicates there is still much work to be done in this age group. In addition the continued increase in the drowning rate of older adults highlights the need for significant work in this area.

In Victoria the two key focus areas by life stage are:

- Children aged 0-4 years
- Adults aged 65 years and over.

It is important to note that the high rate of non-fatal drowning in children and adolescents combined with the potential to educate and set up positive aquatic behavioural patterns in the younger years, highlight the need for a continued focus on education in children and adolescents to prevent drowning across the lifespan.

The following section outlines the key objectives to address drowning in Victoria across each life stage.
REDUCE DROWNING DEATHS IN CHILDREN AGED 0-14

CHILDREN 0-4 YEARS KEY DROWNING TRENDS, 2004/05 TO 2014/15

<table>
<thead>
<tr>
<th>LOCATIONS</th>
<th>ACTIVITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DROWNING DEATHS</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>37% HOME SWIMMING POOLS</td>
<td>69% WALKING/RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>31% BATHTUBS</td>
<td>29% BATHING</td>
<td></td>
</tr>
<tr>
<td>23% DAMS/RIVERS/CREEKS/STREAMS</td>
<td>69% WALKING/RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>HOSPITAL ADMISSIONS FOR NON-FATAL DROWNING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35% LAKES/DAMS</td>
<td>44% SWIMMING/PADDLING/WADING</td>
<td></td>
</tr>
<tr>
<td>23% BEACHES</td>
<td>37% WALKING/RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>19% RIVERS/CREEKS/STREAMS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHILDREN 5-14 YEARS KEY DROWNING TRENDS, 2004/05 TO 2014/15

<table>
<thead>
<tr>
<th>LOCATIONS</th>
<th>ACTIVITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DROWNING DEATHS</td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>35% LAKES/DAMS</td>
<td>44% SWIMMING/PADDLING/WADING</td>
<td></td>
</tr>
<tr>
<td>23% BEACHES</td>
<td>37% WALKING/RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>19% RIVERS/CREEKS/STREAMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOSPITAL ADMISSIONS FOR NON-FATAL DROWNING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33% LAKES/DAMS</td>
<td>44% SWIMMING/PADDLING/WADING</td>
<td></td>
</tr>
<tr>
<td>33% BEACHES</td>
<td>33% WALKING/RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>33% RIVERS/CREEKS/STREAMS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Goal 1a. Reduce Drowning Deaths in Children Aged 0-4

Key objectives

i. Strengthen child drowning prevention knowledge, programs and water safety awareness campaigns that raise awareness of the importance of adult supervision, pool fencing, water familiarisation and CPR.

ii. Continue to target multicultural and indigenous communities regarding toddler supervision in water-related environments.

iii. Advocate for local and state government to include mandatory home pool fence monitoring and maintenance compliance of four sided pool fencing as part of state building regulations.

iv. Advocate for community to build resilience by learning everyday lifesaver skills of rescue and resuscitation.

v. Focus attention on the full burden of children drowning, including non-fatal drowning and impacts on families.

vi. Work with Maternal and Child Health nurses in regional Victoria to promote secure safe play areas on farms, rural residential properties and recreation parks.

Goal 1b. Reduce Drowning Deaths in Children Aged 5-14

Key objectives

i. Promote survival swimming and water safety education for school aged children, as vital, lifelong skills to parents, schools, industry and policy makers.

ii. Secure a sustainable model so that primary school children (most at need) are provided increased opportunity to learn required survival swimming skills and water safety knowledge, to prepare them for unexpected entry into (open) water.

iii. Provide increased opportunity for the delivery of Swim Teacher training in areas of greatest need, increasing the number and level of qualified personnel across a range of communities.

iv. Fund, create and evaluate systems that would allow the implementation of a swimming capability database to track the progress of children’s water safety knowledge and swimming skill competence.

v. Using international and local data, establish a baseline of swimming capabilities to assist future water safety skill development programs for implementation as an industry set of core competencies.
**Goal 02**

**Reduce Drowning Deaths in Young People Aged 15-24**

**Key Drowning Trends, 2004/05 to 2014/15**

<table>
<thead>
<tr>
<th>Locations</th>
<th>Activities</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drowning Deaths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32% BEACHES</td>
<td>40% SWIMMING/ PADDLING/WADING</td>
<td></td>
</tr>
<tr>
<td>32% RIVERS/CREEKS/ STREAMS</td>
<td>16% WALKING/ RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>10% SWIMMING POOLS</td>
<td>15% ACTIVITIES OF DAILY LIVING (e.g. bathing or motor vehicle accident)</td>
<td></td>
</tr>
<tr>
<td><strong>Hospitals Admissions for Non-Fatal Drowning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ED Presentations for Non-Fatal Drowning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Goal 03**

**Reduce Drowning Deaths in Males Aged 25-64**

**Key Drowning Trends, 2004/05 to 2014/15**

<table>
<thead>
<tr>
<th>Locations</th>
<th>Activities</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drowning Deaths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28% BEACHES</td>
<td>17% SWIMMING/ PADDLING/WADING</td>
<td></td>
</tr>
<tr>
<td>25% RIVERS/CREEKS/ STREAMS</td>
<td>16% BOATING</td>
<td></td>
</tr>
<tr>
<td>17% OCEAN/HARBOUR</td>
<td>10% WALKING/ RECREATING NEAR WATER</td>
<td></td>
</tr>
<tr>
<td>11% BATHTUBS/SPA BATHS</td>
<td>10% BATHING/ HAVING A SPA BATH</td>
<td></td>
</tr>
<tr>
<td><strong>Hospitals Admissions for Non-Fatal Drowning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>266</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ED Presentations for Non-Fatal Drowning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>188</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Goal**

1. Reduce Drowning Deaths in Young People Aged 15-24

**Key Objectives**

- Implement and evaluate campaigns and initiatives that target risk-taking behaviours in young people, particularly use of alcohol and other drugs while boating or swimming in unpatrolled beaches, rivers and backyard swimming pools.
- Promote participation in lifesaving education programs during secondary school years and through community groups working with young people.
- Conduct research into the underlying risk factors for drowning and measure the effectiveness of programs targeting drowning prevention in young people.

**WHA Action**

- 10 A4
- 3 A4
- 10 F1

2. Reduce Drowning Deaths in Males Aged 25-64

**Key Objectives**

- Conduct research, develop, implement and evaluate interventions aimed at reducing the role of alcohol and other drugs in open water drowning among men within this age group.
- Promote the importance of wearing a lifejacket when undertaking boating, fishing, jet skiing and rock fishing, particularly among men.

**WHA Action**

- 10 F1
- 6 F1
Goal 4: Reduce Drowning Deaths in People Aged 65+

**Key Objectives**

i. Focus attention on greater segmentation within this broad age group to gain a greater understanding of the needs and risk factors.

ii. Create, implement and evaluate targeted education programs and public awareness campaigns that seek to reduce drowning in people aged 65 years and over.

iii. Strengthen drowning prevention and healthy activity programs targeting people aged 65 and over including promoting workforce development and infrastructure planning.

iv. Review evidence across research, policy and practice and increase partnerships with the falls prevention and healthy ageing sectors.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Key Objectives</th>
<th>WHO Action</th>
<th>EMV Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Reduce Drowning Deaths in People Aged 65+</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Focus attention on greater segmentation within this broad age group to gain a greater understanding of the needs and risk factors.</td>
<td>10 F1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Create, implement and evaluate targeted education programs and public awareness campaigns that seek to reduce drowning in people aged 65 years and over.</td>
<td>5 F1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Strengthen drowning prevention and healthy activity programs targeting people aged 65 and over including promoting workforce development and infrastructure planning.</td>
<td>8 A1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. Review evidence across research, policy and practice and increase partnerships with the falls prevention and healthy ageing sectors.</td>
<td>10 G7</td>
<td></td>
</tr>
</tbody>
</table>

**Key Drowning Trends, 2004/05 to 2014/15**

<table>
<thead>
<tr>
<th>Locations</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaches</td>
<td>Walking/Recreating Near Water</td>
</tr>
<tr>
<td>Rivers/Creeks/Streams</td>
<td>Boating</td>
</tr>
<tr>
<td>Bathtubs/Spa Baths</td>
<td>Bathing/Having a Spa Bath</td>
</tr>
<tr>
<td>Lakes/Dams</td>
<td></td>
</tr>
</tbody>
</table>

- **Drowning Deaths**: 79
- **Hospital Admissions for Non-Fatal Drowning**: 64
- **ED Presentations for Non-Fatal Drowning**: 39
Targeting High-Risk Locations

Open water locations such as beaches, the ocean, rivers, creeks, streams, lakes, and dams accounted for three out of four drowning deaths from 2004/05 to 2014/15. At baseline (2004-07) drowning occurred in similar proportions across coastal and inland waterways (35% and 38% respectively).

In recent years (2012-15) however, the number and proportion of drowning deaths occurring in coastal waterways has increased to 46% compared to a slight reduction to 34% in inland waterways. Overall these figures demonstrate that more work is required to reduce drowning across all open waterways.

Recent work on the Inland Waterways Drowning Prevention Project, an initiative of RLSSA and funded by the Australian Government, may account for the slight decrease in drowning in these waterways. However the continued deaths in particular in rivers/creeks/streams (Figure 5) highlights a need for this work to continue.

Figure 5: Proportion of drowning deaths by location, Victoria 2004/05 to 2014/15.

The increased drowning toll across Victorian coastal environments highlights the need for new and innovative methods to reduce drowning in coastal waterways. The coastal drowning blackspot projects, an initiative of Surf Life Saving Australia (SLSA) and funded by the Australian Government, target key drowning blackspots along the Victorian coast in order to address this disturbing trend.

Strengthening the Australian aquatic industry has also been included in Priority Area Two. While drowning deaths in aquatic facilities are rare occurrences with eight reported drowning deaths in public aquatic facilities in Victoria since 2004/05, half of these deaths have occurred in the last two years. Recent coronial recommendations have highlighted potential ways to strengthen the aquatic industry in Victoria and therefore reviewing and acting upon these recommendations is a key priority of this latest Strategy.
**GOAL 05**

**REDUCE DROWNING DEATHS IN INLAND WATERWAYS**

### KEY DROWNING TRENDS, 2004/05 TO 2014/15

<table>
<thead>
<tr>
<th>DROWNING DEATHS</th>
<th>ALCOHOL AND/OR DRUG RELATED</th>
<th>85%</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>34%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking/Recreating near water</td>
<td>29%</td>
</tr>
<tr>
<td>Swimming/Paddling/Wading</td>
<td>22%</td>
</tr>
<tr>
<td>Non-Aquatic Transport</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Figure 6:** Drowning deaths in inland waterways by location type and financial year, Victoria 2004/05 to 2014/15.

### Activities

**Goal 5:** Reduce Drowning Deaths in Inland Waterways

<table>
<thead>
<tr>
<th>Key Objectives</th>
<th>WHO Action</th>
<th>EMV Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Develop and implement community-focused drowning prevention plans.</td>
<td>9</td>
<td>A1</td>
</tr>
<tr>
<td>ii. Provide support for continued water safety information at major access points.</td>
<td>5</td>
<td>A1</td>
</tr>
<tr>
<td>iii. Increase the provision of community open water learning programs for all Victorians, particularly targeting at risk Local Government Areas (LGAs) and high risk communities.</td>
<td>3</td>
<td>A6</td>
</tr>
<tr>
<td>iv. Explore partnerships that expand reach and effectiveness of flood and weather warnings.</td>
<td>7</td>
<td>H3</td>
</tr>
<tr>
<td>v. Address infrastructure and human resources needs in rural and remote areas to ensure adequate coverage of aquatic instructors and safety risk management.</td>
<td>8</td>
<td>G5</td>
</tr>
<tr>
<td>vi. Ensure the availability of appropriate resources to support effective rescue and response services.</td>
<td>7</td>
<td>G4</td>
</tr>
<tr>
<td>vii. Identify, develop and implement strategies and public awareness campaigns aimed at reducing alcohol-related drowning of men around urban inland waterways.</td>
<td>5</td>
<td>H3</td>
</tr>
<tr>
<td>viii. Seek the inclusion of the water safety industry in consultation for all urban waterway developments.</td>
<td>8</td>
<td>E2</td>
</tr>
<tr>
<td>ix. Applicable new home buyers to receive information on living around open waterways.</td>
<td>5</td>
<td>H3</td>
</tr>
<tr>
<td>x. Enhance community awareness of the danger of recreating in and around flooded roads and drains, with a focus on conveying the impact of weather and rainfall on the risk.</td>
<td>7</td>
<td>H3</td>
</tr>
</tbody>
</table>
REDUCE DROWNING DEATHS IN COASTAL WATERS

KEY DROWNING TRENDS, 2004/05 TO 2014/15

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming/Paddling/Wading</td>
<td>26%</td>
</tr>
<tr>
<td>Boating</td>
<td>25%</td>
</tr>
<tr>
<td>Scuba Diving/Snorkelling</td>
<td>10%</td>
</tr>
</tbody>
</table>

163 DROWNING DEATHS

87% Figure 7: Drowning deaths in coastal waterways by location type and financial year, Victoria 2004/05 to 2014/15.

Figure 7: Drowning deaths in coastal waterways by location type and financial year, Victoria 2004/05 to 2014/15.

Goal 6: Reduce Drowning Deaths in Coastal Waters

Key objectives

i. Evaluate the issue of coastal safety in its entirety, including assessment of non-fatal drownings and critical incidents to better inform targeted interventions.

ii. Implement coastal safety awareness campaigns and products to address root causes of drowning that are targeted towards high-risk populations.

iii. Increase open water survival, rescue and resuscitation skills that are critical enablers to safe participation in recreational activities, targeting at risk Local Government Areas (LGAs) and high risk communities.

iv. Identify and analyse blackspot locations with high drowning rates and implement evidence-based drowning prevention programs which are evaluated on their ability to mitigate risk.

v. Investigate the provision of paid lifeguard services at new high risk sites.

vi. Enhance surveillance and effective emergency response to critical incidents by improving technology, equipment, procedures and skills of personnel.

vii. Ensure the availability of appropriate resources to support effective rescue and response services.

viii. Seek support for the development and maintenance of realistic, fit for purpose, location sympathetic and advanced design water rescue facilities.

ix. Develop resources, technologies and systems to support the skill development and continuous learning for those involved in aquatic rescue.

x. Assess the impact and effectiveness of coastal drowning prevention initiatives.
GOAL 07

REDUCE DROWNING DEATHS BY STRENGTHENING THE AQUATIC INDUSTRY

KEY DROWNING TRENDS, 2004/05 TO 2014/15

DROWNING DEATHS

6

NON-FATAL DROWNING INCIDENTS ATTENDED BY PARAMEDICS*

88

2007 to 2012

Figure 6: Age-specific percentages of fatal and non-fatal drowning incidents attended by paramedics in Victoria 2007 to 2012.*

*Data sourced from Matthews et al., 2016.

Goal Key objectives WHO Action EMV Action

7 Reduce Drowning Deaths by Strengthening the Aquatic Industry

i. Implement programs that standardise risk management processes, improve management standards and minimise risk in aquatic recreational environments.

7 F1

ii. Establish and implement policy for regular risk assessment of water related facilities in line with proposed accreditation schemes.

6 F1

iii. Introduce a central reporting system for incidents at public water related and recreation facilities to inform design, guide operations and identify areas of improvement for lifeguard training and service provision.

8 D2

iv. Source funding to develop and implement an aquatic risk technology solution for peak aquatic agencies, schools and the outdoor recreation sector.

8 A4

v. Facilitate a shared responsibility of aquatic agencies, working together to build resilience through collaborative action, shared capacity building and the development of strong relationships built on trust and respect.

8 A4

vi. Respond to increasing need to provide marine rescue, response and coordination capability to address growing use of inland and coastal waterways for recreation and industrial purposes.

8 G2

vii. Respond to increasing numbers of people in the community without water safety skills, as well as changing trends in aquatic visitations and drowning data.

3 A1

viii. Research the role and contribution that safe, effectively managed venues make to drowning prevention and safe healthy communities in Victoria.

10 G7

ix. Support national accreditation structures to ensure high quality education, training and professional development of qualified swim teachers and lifeguards.

8 D2

x. Strengthen the skills, standards & recognition of our paid and volunteer drowning prevention workforce.

7 D2

xi. Respond to increasing administrative and operational demands on lifesaving clubs and volunteers in addressing growing community demand for lifesaving.

8 D1

xii. Respond to increasing volume and complexity of unfunded volunteer training to meet higher RTO compliance, workplace health and safety and operational requirements.

8 D2

xiii. Respond to opportunity and need to align leadership strategies and programs with increasing diversity in the community, with a focus on gender, age and cultural diversity.

8 C1

xiv. Promote participation in lifesaving education programs during secondary school years and through community groups working with young people.

4 A4

xv. Focus attention on the full burden of drowning, including non-fatal drowning and impacts on families.

5 A1

Figure 8: Age-specific percentages of fatal and non-fatal drowning incidents attended by paramedics in Victoria 2007 to 2012.*
PRIORITY AREA THREE
Focusing on Key Drowning Challenges

The focus of this priority area for Victoria is the need to reduce drowning deaths attributed to:
• Alcohol and drugs
• Boating, watercraft and recreational aquatic activities (includes boats and watercraft, rock fishing, fishing and diving)
• High-risk populations (includes Aboriginal and Torres Strait Islanders, people from CALD backgrounds, international tourists and international students)

Alcohol as a key risk factor for drowning continues with no change in the number of drowning deaths from Baseline to Follow-up (Table 1). Alcohol related drowning deaths occur year round but most commonly in summer (33%), followed by spring (26%), then autumn and winter (both 21%). In addition alcohol related drowning more typically occurs in inland waterways in particular rivers (31%) followed by beaches (19%).

Boating related drowning has continued to increase since 2010/2011. This follows an initial decline in boating fatalities following the introduction of mandatory wearing of lifejackets for recreational boaters in Victoria in December 2005. An increase in fatalities involving human powered vessel occupants reflects the increasing popularity of these activities, in particular canoeing and kayaking.

Reducing drowning in CALD communities is an ongoing issue. On average 16% of drowning deaths each year are of those individuals known to have been born overseas. However, these figures are likely to be higher as it is estimated that country of birth or ethnicity were either unknown at the time or are unlikely to be known in three out of four drowning deaths.
REDUCE ALCOHOL- AND DRUG-RELATED DROWNING DEATHS

KEY DROWNING TRENDS, 2004/05 TO 2014/15

107 DROWNING DEATHS

- 38% RIVERS/CREEKS/STREAMS
- 23% Beaches
- 24% WALKING/RECREATING NEAR WATER
- 21% SWIMMING/PADDLING/WADING
- 11% BOATING

82%

Figure 9: Drowning deaths known to involve alcohol and/or drugs by age group and sex, Victoria 2004/05 to 2014/15.

Goal

8. Reduce Alcohol- and Drug-Related Drowning Deaths

Key objectives

i. Develop a co-ordinated, relevant approach with consistent motivating messages to highlight risks of alcohol and aquatic activity to young male risk takers.

ii. Provide paid lifeguard services at key beaches during ‘Schoolies Week’.

iii. Liaise with alcohol regulators regarding the responsible serving of alcohol in water-related environments.

iv. Partner with recreational boating and fishing groups, alcohol-related advocacy groups and government to build effective interventions in this area.

v. Partner with government(s) and advocacy groups to enhance enforcement of alcohol and watercraft use, particularly in regional areas.

vi. Further investigate the role of alcohol in drowning, including social and cultural factors, and develop, implement and evaluate campaigns and programs that aim to reduce drowning while boating or swimming at beaches, rivers and backyard swimming pools.

WHO Action EMV Action

5 F1

2 G1

8 E1

8 E2

6 E2

10 G7

Figure 9: Drowning deaths known to involve alcohol and/or drugs by age group and sex, Victoria 2004/05 to 2014/15.
## GOAL 09

REDUCE BOATING, WATERCRAFT AND RECREATIONAL ACTIVITY RELATED DWONNINGS

### KEY DWONNING TRENDS, 2004/05 TO 2014/15

<table>
<thead>
<tr>
<th>Locations</th>
<th>Drowning Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal (e.g. Ocean/ Harbour/ Rocks)</td>
<td>78%</td>
</tr>
<tr>
<td>Inland (e.g. Lakes/ Rivers/ Creeks/ Streams)</td>
<td>22%</td>
</tr>
</tbody>
</table>

![Figure 10: Proportion of drowning deaths related to boating, watercraft and recreational activities by age group, Victoria 2004/05 to 2014/15.](image)

### Goal 9. Reduce Boating, Watercraft and Recreational Activity Related Drownings

<table>
<thead>
<tr>
<th>Key Objectives</th>
<th>WHO Action</th>
<th>EMV Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Increase access to drowning prevention education and skills for recreational waterfront users.</td>
<td>4 A6</td>
<td></td>
</tr>
<tr>
<td>ii. Implement a water safety media campaign targeting high risk recreational activities.</td>
<td>5 F1</td>
<td></td>
</tr>
<tr>
<td>iii. Develop and maintain strategic relationships with appropriate agencies and organisations to ensure the delivery of safety broadcasts to all waterfront users.</td>
<td>8 F1</td>
<td></td>
</tr>
<tr>
<td>iv. Increase the provision of paddle safety / waterfront safety messaging in community education particularly targeting Local Government Areas (LGAs) identified as high risk, regional and rural areas.</td>
<td>5 F1</td>
<td></td>
</tr>
<tr>
<td>v. Provide adequate local signage with regard to local boating risks at boating disembarkment points such as boat ramps.</td>
<td>5 F1</td>
<td></td>
</tr>
<tr>
<td>vi. Advocate for best practice in policy, legislation, enforcement and promotion of lifejacket use.</td>
<td>6 E1</td>
<td></td>
</tr>
<tr>
<td>vii. Conduct research into waterfront drowning incidents which assists in the identification of risk factors and prevention strategies for waterfront-related drowning deaths.</td>
<td>10 G7</td>
<td></td>
</tr>
<tr>
<td>viii. Collect data on boating incidents to analyse and publish annually.</td>
<td>10 G7</td>
<td></td>
</tr>
<tr>
<td>ix. Conduct research into attitudes and behaviours of people undertaking high risk recreational activities such as rock fishing and boating.</td>
<td>10 G7</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>4 F1</td>
<td></td>
</tr>
<tr>
<td>x. Increase access to drowning prevention education and skills for recreational fishers, targeting vulnerable communities and promoting lifejackets for rock fishing.</td>
<td>8 E1</td>
<td></td>
</tr>
<tr>
<td>Diving and Snorkelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xi. Advocate for the development of a National Code of Practice for recreational scuba divers, snorkelers and dive professionals.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
REDUCE DROWNING DEATHS IN HIGH-RISK POPULATIONS

KEY DROWNING TRENDS, 2004/05 TO 2014/15

DROWNING DEATHS

LOCATIONS

51% BEACHES

24% RIVERS/CREEKS/STREAMS

10% BAY/OCEAN

ACTIVITIES

28% SWIMMING/PADDLING/WADING

14% WALKING/RECREATING NEAR WATER

13% ROCK FISHING

13% ATTEMPTING A RESCUE

72 DROWNING DEATHS

3 OUT OF 4 UNKNOWN COUNTRY OF BIRTH OR ETHNICITY

86%

GOAL 10

REDUCE DROWNING DEATHS IN HIGH-RISK POPULATIONS

GOAL 11

REDUCE THE IMPACT OF DISASTER AND EXTREME WEATHER ON DROWNING DEATHS

Drowning is the leading cause of death as a direct result of floods in Australia, with almost half (49%) of these associated with driving motor vehicles across flooded waterways or driving on flooded roadways and a further 27% from inappropriate or high-risk behaviour such as swimming or surfing in flood water (FitzGerald et al., 2010). The majority of flood fatalities occurred in the eastern States in particular New South Wales and Queensland (FitzGerald et al., 2010). However a number of deaths have also occurred in Victoria over the years. It is therefore vital that strategies are implemented that raise community awareness and skills to prevent drowning during floods, particularly as a result of driving through floodwaters.

KEY DROWNING TRENDS, 2004/05 TO 2014/15

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Drowning is the leading cause of death as a direct result of floods in Australia, with almost half (49%) of these associated with driving motor vehicles across flooded waterways or driving on flooded roadways and a further 27% from inappropriate or high-risk behaviour such as swimming or surfing in flood water (FitzGerald et al., 2010). The majority of flood fatalities occurred in the eastern States in particular New South Wales and Queensland (FitzGerald et al., 2010). However a number of deaths have also occurred in Victoria over the years. It is therefore vital that strategies are implemented that raise community awareness and skills to prevent drowning during floods, particularly as a result of driving through floodwaters.

KEY DROWNING TRENDS, 2004/05 TO 2014/15

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The data presented in the Victorian Water Safety Strategy 2016-20 includes unintentional fatal and non-fatal drowning incidents reported in Victoria, Australia. The data was collected, collated and analysed by the Aquatic Risk and Research Department at Life Saving Victoria.

Baseline data is a three year average calculated from 2004/05 to 2006/07 financial years. The follow-up data is a three year average calculated from 2012/13 to 2014/15.

An overview of fatal drowning from 1 July 2004 to 30 June 2015 is provided and compared with non-fatal drowning incidents for the same time period.

Fatal incidents
Information on fatal drowning incidents was collected from the Coroners Court of Victoria, and the National Coroners Information System (NCIS). Deaths due to natural causes, suicide or homicide are excluded from this report.

Coronial information relates to both open and closed cases. While all care is taken to ensure that the results are as accurate as possible, these figures are provisional only as coronial investigations and findings relating to open cases may alter the reported drowning figures. Data presented in this VWSS is correct as at 13 July 2016.

Non-fatal incidents
Information on non-fatal drowning from 1 July 2004 to 30 June 2015 was provided by the Victorian Injury Surveillance Unit (VISU). Hospital admissions and Emergency Department (ED) presentations were extracted from the Victorian Admitted Episodes Dataset (VAED) and the Victorian Emergency Minimum Dataset (VEMD), respectively.

Victorian Admitted Episodes Dataset (VAED)
The Department of Health and Human Services (DHHS) collects morbidity data on all admitted patients from all Victorian public and private acute hospitals including rehabilitation centres, extended care facilities and day procedure centres. These data form the Victorian Admitted Episodes Dataset (VAED). Further detailed information about the VAED can be found at: http://www.health.vic.gov.au/hdss/vaed/index.htm.

In July 2012 the Victorian Hospital Admission Policy changed significantly so that episodes of care delivered entirely within a designated emergency department or urgent care centre could no longer be categorised as an admission regardless of the amount of time spent in the hospital. Previously, these types of episodes could be categorised as an admission if the length of time in the hospital was four hours or more. This has reduced the number of admissions recorded on the VAED from 2012/13 onwards.

In order to minimise the influence of the hospital admission policy change on trends in the admissions data, VAED cases recorded as spending the entire episode in the ED have been removed from the entire time period.

Cases were extracted if there was a drowning injury diagnosis “Drowning and non-fatal submersion” or the external cause code included accidental drowning and submersion, accident to water craft causing drowning and submersion, or water-transport-related drowning and submersion without accident to watercraft. Admissions as a result of transfer from another hospital or due to a statistical separation from the same hospital were excluded.

Victorian Emergency Minimum Dataset (VEMD)

Each record represents the first presentation for treatment of injuries arising from an incident. Data were selected if the cause of injury was ‘drowning’ near drowning’ or the terms ‘drown’, ‘submerged’, ‘immersion’ and their variations were included in the “Description” variable. Further all injuries with an injury coded to drowning or immersion were also selected. Finally any injury coded to a drowning or non-fatal drowning cause code with the mention of “decompression illness” in the description was also chosen. Due to inconsistencies in the coding, these cases were then manually screened to ensure that they were submersion or non-fatal drowning cases.

Drowning deaths were excluded from VISU data to avoid an overlap with Life Saving Victoria (LSV) fatal drowning data.
References


