

WATER SAFETY TASKFORCE

Final Report

Picture courtesy of the Health Promotion Board

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BACKGROUND

1 According to statistics provided by the Registry of Births & Deaths (RBD), there was an annual average of 73 deaths by drowning¹ in Singapore between 1960 and 2005.

2 Fortunately, the absolute number of deaths by drowning has steadily decreased, particularly in recent years. If we look at 5-year annual averages for deaths by drowning between 1960 and 2005 (please see Annex B), this went from 82 (for 1960-1964), to a peak of 96 (for 1970-1974), before dropping gradually over the years to 43 (for 2000-2005).

3 Over the period 1960 to 2005, the Singapore-based population has been increasing. So, if we look at annual average deaths by drowning per 100,000 population, this has decreased as well over time, from 4.70 (for 1960-1964) to a high of 4.75 (1965-1969) to the current low of 1.04 (2000-2005). Internationally, the 1.04 figure compares well with Australia's annual average drowning rate² of 1.38 per 100,000 population (i.e. for a similar timeframe from 2000 to 2005).

4 Notwithstanding the relatively encouraging trend analysis, every death by drowning in Singapore is still one death too many, and more can be done to reduce deaths by drowning even further. Furthermore, the statistics do not include Singaporeans who have drowned overseas.

5 This is especially when according to the World Congress on Drowning Recommendations (WCDR), a vast majority of drowning incidents can be prevented. Water safety should be emphasized to equip Singaporeans with important life-long knowledge and skills to prevent such mishaps from occurring both in the local and global context. Thus, more effort and resources should be channeled to reduce the drowning mortality rate, particularly in upstream education and prevention measures.

6 With this in mind, the Ministry of Community Development, Youth and Sports (MCYS) convened a multi-agency Water Safety Taskforce in 2005 comprising representatives from the public, private and people sectors to review water safety issues and measures holistically. Dr Teo Ho Pin, Mayor Northwest CDC and Honorary Advisor to the Singapore Lifesaving Society (SLSS), was appointed as the Advisor to this Taskforce. Going forward, the Taskforce will help coordinate existing initiatives and progress by the various government agencies to raise water safety awareness and enhance water safety measures.

¹ An updated and more comprehensive definition of drowning adopted by international experts at the World Congress on Drowning in 2002 is 'the process of experiencing respiratory impairment from submersion/immersion in liquid'.

² Source: Australia's National Drowning Report 2006.

Terms of Reference and Composition of the Taskforce

- 7 The terms of reference for the Taskforce were as follows:
- (a) To evaluate the adequacy of measures currently adopted by various agencies to promote Water Safety;
 - (b) To propose a holistic and coordinated framework on Water Safety that covers the promotion of the awareness of Water Safety, the attainment of swimming proficiency, and the application of lifesaving skills and equipment;
 - (c) To encourage various sectors (voluntary, grassroots and commercial) to administer effective programmes that help promote the importance of Water Safety and to advance swimming proficiency.
- 8 Chaired by MCYS Director for Sports, the Taskforce was formed in September 2005 and comprised representatives (see full list of members in **Annex B**) from the following agencies:
- (a) Ministry of Education (MOE)
 - (b) Singapore Sports Council (SSC)
 - (c) Health Promotion Board (HPB)
 - (d) Public Utilities Board (PUB)
 - (e) People's Association (PA)
 - (f) Singapore Life Saving Society (SLSS)
 - (g) Singapore Swimming Association (SSA)
- 9 Dr Teo Ho Pin (Mayor, Northwest CDC) served as the advisor to the Taskforce.

CONCEPTUAL FRAMEWORK

Guiding Principles

- 10 The Taskforce agreed to adopt the following guiding principles for its work:
- (a) The overall framework to promote Water Safety must be **holistic** and **comprehensive** – It should aim to cover all segments of the population and the different locations of water bodies; and
 - (b) Initiatives to promote Water Safety must be **sustainable over a period of time**.

Key Objectives

11 In June 2002, more than 500 experts from all over the world attended the *World Congress on Drowning (Amsterdam)* to develop insight into methods to reduce the number of drowning cases and incidents. This Congress was organised by the Dutch Society to Rescue People from Drowning, a non-profit organisation founded in 1767. The Congress also surfaced many aspects of drowning prevention. The final draft of 13 recommendations covered areas from the definition of drowning to rescue techniques. Guided by the deliberations of the Congress, this Taskforce narrowed its focus to three key objectives:

Objective 1: Safety Awareness

- (a) The Taskforce observed that between 2001-2004, 10% of drowning in Singapore occurred in a swimming pool. This is an important indicator that there is a lack of Water Safety awareness outside the pool since 90% of drowning happened in places like the sea, rivers, canals and the reservoirs. In addition, one of the recommendations of the *World Congress on Drowning* highlighted the importance of having aquatic safety education as the basic fundamental tool in any drowning prevention strategy. The Taskforce recognised this as the **most critical pillar that will anchor our framework to promote Water Safety**.

Objective 2: Swimming Proficiency

- (b) The *World Congress on Drowning* also acknowledged the importance of learning to swim in its recommendation because it would be a critical “life skill”. Although there is limited research to demonstrate a strong link³ between the acquisition of swimming skills and an individual’s ability to survive in water, the Taskforce concurs with the position of the *World Congress on Drowning*, and we view swimming proficiency as equally important as safety awareness. Hence, we would strongly encourage that all Singaporeans, particularly our youth, learn to swim and build up their water confidence.

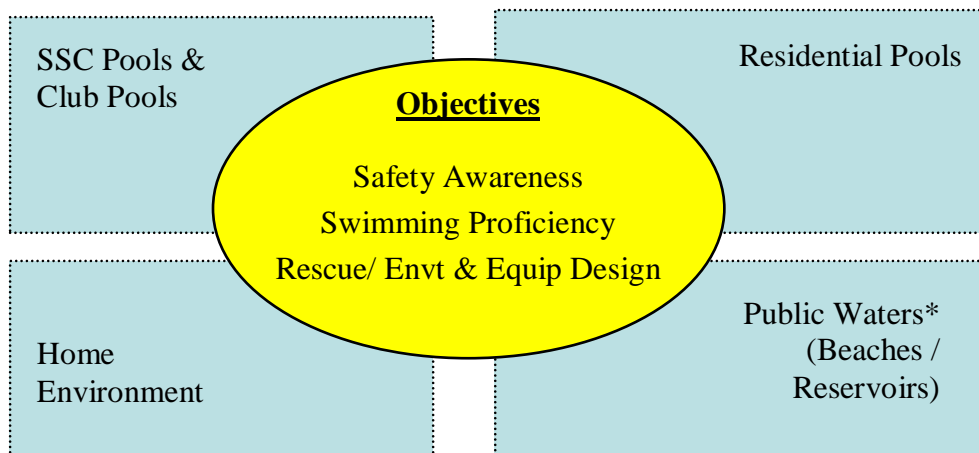
³ Source: Brenner, R.A., *Prevention of drowning in infants, children, and adolescents*, American Academy of Pediatrics, Vol 112, No.2.

Objective 3: Rescue and Environment / Equipment Design

- (c) Environmental design changes could reduce the incidence of drowning. A study by the United States Army Corps of Engineers found that environmental design changes⁴ at aquatic facilities played a role in reducing recreation-related drowning by 73% (between 1981 and 1995), even though visitation at the public facilities managed by them increased by 66%. Supervision by lifeguards, as well as parents and other minders, was another positive factor in the reduction of drowning or near-drowning incidents.

12 The overall conceptual framework showing the key objectives as an overlay to the different locations of water bodies in Singapore is shown in the diagram below. It presents itself as a holistic framework on Water Safety that covers the promotion of the awareness of Water Safety, the attainment of swimming proficiency, and the application of lifesaving skills and equipment.

**WATER SAFETY TASK FORCE
OVERALL FRAMEWORK**



* Includes local and overseas beaches and water-based bodies

⁴ The changes included having buoys and markers to delimit swimming areas and lifesaving devices consisting of life jugs, ring buoys and lines, poles and prominent signs. Source: Keshlear, B., *Drowning prevention: An Army Corps of Engineers perspective*, in Fletemeyer, J.R. and Freas, S.M., (eds) *Drowning: News Perspectives on Intervention and Prevention* (1999) 165-75.

REVIEW OF EXISTING MEASURES

13 The Taskforce had several discussions to map out the range of measures currently adopted by various agencies to promote Water Safety. The following matrix covering the different population segments and locations was used to do a stock-take of the measures:

WATER SAFETY MATRIX

OBJECTIVES	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(A) Safety Awareness					
(B) Swimming Proficiency					
(C) Rescue					

LOCATIONS	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(1) SSC Pools					
(2) Club Pools					
(3) Private Condo Pools					
(4) Reservoirs					
(5) Beaches					
(6) Waterways (Rivers, canals and drains)					
(7) Home Environment					
(8) Overseas beaches and water-based bodies					

14 The final matrix showed that a range of safety measures (details and suggestions on areas for improvement are shown in **Annex C**) has already been put in place at most of the locations, including the waterways (see **Annex D**). From these, the Taskforce made the following observations pertaining to various aspects of “**software**” (programmes to promote Water Safety), “**heartware**” (society’s values and attitudes towards Water Safety) and “**hardware**” (adequacy of safety features and equipment):

Software: Schools are effective educational channels on Water Safety for the young

- (a) Primary schools are presently encouraged to conduct the Learn-to-Swim (LTS) Programme⁵ annually. The average number of primary school pupils who had benefited from this programme each year was about 10,400. In addition, about 55% of primary schools and 25% of secondary schools had offered swimming as a co-curricular activity. However, schools had the flexibility to plan and implement their own swimming programmes to meet the needs and interests of their students. MOE will encourage water safety lessons to be delivered through either Physical Education (PE) or Health Education (HE) lessons. MCYS and SSC could encourage students to participate in swimming programmes, and provide practical support in terms of funding and suitable packages to suit the needs of different families and schools.

⁵ The Learn-to-Swim Programme was initiated in year 1987. It aimed to help non-swimmers gain water confidence and equip them with the skills to float and swim at least the width of the pool. Under the programme, training was also provided for swimmers.

Heartware: Public education to reach out to public at large

- (b) The HPB launched the Childhood Injury Prevention Programme (CHIPP) in 2004 with the aim of raising public awareness on the causes and prevention of common childhood injuries. The primary target audience of this programme are the parents and caregivers of young children aged 0 - 12 years old while the secondary target audience are the 5-12 year-olds. The programme focused on safety at home and safety at play in 2004 and 2005, respectively. Water safety messages were weaved into the programme in 2005. The opportunity to include suitable water safety messages in appropriate CHIPP initiatives could be explored.

Hardware: Extent of government influence over different facilities and water bodies

- (c) Relative to the pools managed by SSC, there is significantly less control over the governance or management of certain categories of water bodies (e.g. private condominium pools and open beaches). While enhanced safety features (e.g. life buoys) and stricter enforcement practices (including legislation) could be put in place to prevent drowning in these water bodies, there would be a need to instil a sense of personal responsibility (e.g. people should not swim in reservoirs).

RECOMMENDATIONS

15 Much work has been done by various agencies in the areas of Water Safety and drowning prevention. The Taskforce would encourage agencies to continue to step up these efforts. In addition, the Taskforce has identified seven recommendations which could be implemented to achieve the desired results:

Protecting Our Young

	Recommendation	Lead Agency
1.	Encourage schools to carry out dry lessons on Water Safety delivered through either PE or HE lessons.	MOE
	MCYS and SSC could encourage students to participate in swimming programmes, and provide practical support in terms of funding and suitable packages to suit needs of different families and schools.	MCYS/SSC

- (a) MOE will emphasis water safety through PE or HE curriculum. MCYS and SSC will work together to provide practical support to schools in terms of funding and suitable programmes to help schools overcome logistical barriers⁶. This would include clustering of schools and matching them to the nearest SSC pools, as well as the possibility of offering customised swimming packages to schools.

⁶ In a survey by MOE in July 2005, schools highlighted lack of time, manpower and resources/funding as the three key constraints they faced when implementing swimming programmes.

Strengthen and Sustain Public Education Efforts

	Recommendation	Lead Agency
2.	Organise annual campaigns and regular Community Lifesaving Programmes to promote Water Safety to members of the public	SSC

- (b) The Taskforce recognised the need to address the root cause of the issue – Lack of Safety Awareness. To ensure effective delivery of programmes and public education messages, the following influencers should be tapped to reach out to the different target groups:

Key Influencers	Target Group
Community leaders	Members of the public
Lifeguards and swimming instructors	Users of swimming facilities
Organisers of water-based activities (e.g. wind-surfing/ kayaking)	Participants in water-based activities
Principals and teachers (particularly those teaching PE and HE)	Children (mainly those in Primary school)
Parents and Caregivers	Children
Regulatory authorities (e.g. Building and Construction Authority (BCA)) or industry associations	Architects / developers of swimming pools or other water features
Regulatory authorities or industry associations	Management corporations of condominiums
Tour guides	Tourists

	Recommendation	Lead Agency
3.	Set up a Water Safety Pool (similar to the “Road Safety Park”) to showcase safe practices, operations and systems	SSC
4.	Launch and maintain an interactive Water Safety website where users could feedback suggestions, ideas or even participate in games to enhance awareness of Water Safety	SSC

Oversee and Coordinate Longer-term Initiatives

- (c) In addition to the two key thrusts highlighted above, the Taskforce also identified other issues pertaining to the review of pool design regulations to enhance Water Safety and further research to study local data on drowning incidences. In order to drive and sustain these longer-term initiatives, the Taskforce recognised the need for a national body/platform to coordinate Water Safety programmes and initiatives across the various government and non-government agencies.

	Recommendation	Lead Agency
5.	Set up a National Water Safety Council for Singapore as the national coordinating body overseeing all aspects of Water Safety; this should be integrated with the focus on sports safety in the promotion of sports participation in the community. The proposed Council should have a dedicated programme budget to fund inter-agency initiatives related to promoting Water Safety	MCYS/SSC
6.	Review regulations on pool design to remove unsafe design features	National Water Safety Council
7.	Embark on further research to study the local data on drowning incidences	National Water Safety Council

PROPOSED NATIONAL WATER SAFETY COUNCIL

Case Study: Australian Water Safety Council
<ul style="list-style-type: none"> • The Australian Water Safety Council (AWSC) was formed in year 1998 to combat drownings in Australia following the increase in deaths at beaches during the summer of 1997. The AWSC developed and released a National Water Safety Plan⁷ (1998-2003) which was then the first national strategic document focusing on Water Safety. • In year 2004, the AWSC built on the foundations of the earlier Plan and released the National Water Safety Plan (2004-07). The aims of the Plan were to: <ul style="list-style-type: none"> (a) Identify and prioritise the major Water Safety issues (b) Establish the national Water Safety standards (c) Commit to support, bolster and improve the expertise, programmes and resources that are already operating effectively within their existing systems (d) Identify and maximise organisational linkages to ensure that duplication of effort and resources are avoided so that positive ideas and best practices are shared nationally • Since its formation, the AWSC had played a key leadership role in spearheading collaboration between all levels of government, Water Safety organisations as well as sport and recreation service providers. Currently, it comprises 13 members from various organisations and related government agencies interested in Water Safety in Australia.

⁷ At the time of publication of the Water Safety Plan (1998-2003), more than 300 Australians drowned each year. By the end of the period, the country had seen a reduction of 17% to 250 drowning deaths each year. Currently, drowning ranks as the fourth largest cause of unintentional deaths in Australia.

16 The Taskforce observed that Australia would have found it much more difficult to achieve the objectives as set out in their National Water Safety Plan if they did not have a collaborative and consultative platform such as the AWSC. The Taskforce was of the view that a similar setup would also work for Singapore in overseeing all efforts to promote Water Safety.

17 A National Water Safety Council could be set up as a standing committee with members appointed on a two-year term with the following terms of reference:

Terms of Reference
<p>To build on the work of the Water Safety Taskforce by:</p> <ul style="list-style-type: none"> (a) Initiating and coordinating public education efforts as well as efforts to increase children’s participation in swimming programmes through the various platforms (b) Reviewing pool design regulations to enhance Water Safety (c) Embarking on further research to study local data on drowning incidences (d) Overseeing water safety and establishing national water safety standards in areas such as:⁸ <ul style="list-style-type: none"> (i) Guidelines for safe pool operations (ii) Home pool inspection system (iii) National signage standards
Composition
<p>The proposed National Water Safety Council for Singapore could comprise representatives from the following organisations:</p> <ul style="list-style-type: none"> • Ministry of Community Development, Youth and Sports, Singapore Sports Council [Swimming programmes in schools] • Health Promotion Board, Singapore Life Saving Society, Singapore Tourism Board [Public education] • Ministry of Education [Water Safety lessons in schools] • Public Utilities Board, People’s Association, National Parks Board, Singapore Sports Council [Enforcement of Water Safety near water bodies] • Building and Construction Authority, NUS Department of Architecture, Singapore Institute of Architects, National Environment Agency [Review of pool design regulations]

⁸ This is with reference to AWSC’s national water safety standards.

Composition

- Ministry of Health, Ministry of Home Affairs, Singapore Life Saving Society
[**Research and data analysis**]
- Other private sector representatives

CONCLUSION

18 Currently, various agencies already have in place different initiatives and programmes to address Water Safety and drowning prevention. The Water Safety Taskforce provided a timely platform for a stock-take of these efforts and to propose recommendations to enhance the existing measures.

19 There would be a need to ensure that the recommendations can be followed through by a national coordinating body with authority over the issue of Water Safety. Australia, with the help of its Water Safety Council, was able to reduce the number of drowning deaths by 17% within the first five years. For Singapore, we would be able to achieve similar results if we could build on the work of the Water Safety Taskforce and sustain our efforts in all aspects of Water Safety.

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ANNEX A – Statistics on Deaths by Drowning⁹ in Singapore (1960 – 2005)

Year	Cause of Death - Accidental drowning & Submersion (ICDE910) ¹⁰	Cause of Death - Submersion (Drowning) (ICDE984)	Total Population ¹¹ (TP)	TP per 100,000	Drowning Rate per 100,000
1960	65	-	1,646,400	16.46	3.95
1961	78	-	1,702,400	17.02	4.58
1962	91	-	1,750,200	17.50	5.20
1963	79	-	1,795,000	17.95	4.40
1964	99	-	1,841,600	18.42	5.38
1965	86	-	1,886,900	18.87	4.56
1966	104	-	1,934,400	19.34	5.38
1967	103	-	1,977,600	19.78	5.21
1968	89	-	2,012,000	20.12	4.42
1969	66	19	2,042,500	20.43	4.16
1970	75	17	2,074,500	20.75	4.43
1971	74	35	2,112,900	21.13	5.16
1972	51	43	2,152,400	21.52	4.37
1973	57	27	2,193,000	21.93	3.83
1974	70	33	2,229,800	22.30	4.62
1975	50	49	2,262,600	22.63	4.38
1976	45	40	2,293,300	22.93	3.71
1977	60	42	2,325,300	23.25	4.39
1978	30	54	2,353,600	23.54	3.57
1979	33	35	2,383,500	23.84	2.85
1980	37	49	2,413,900	24.14	3.56
1981	34	56	2,532,800	25.33	3.55
1982	33	44	2,646,500	26.47	2.91
1983	37	40	2,681,100	26.81	2.87
1984	36	59	2,732,200	27.32	3.48
1985	40	47	2,736,000	27.36	3.18
1986	37	37	2,733,400	27.33	2.71
1987	49	38	2,774,800	27.75	3.14
1988	23	36	2,846,100	28.46	2.07
1989	31	38	2,930,900	29.31	2.35
1990	32	35	3,046,100	30.46	2.20
1991	20	36	3,135,800	31.36	1.79
1992	18	32	3,232,100	32.32	1.55
1993	14	32	3,315,400	33.15	1.39
1994	18	27	3,421,100	34.21	1.32

⁹ Source: Annual RBD Reports, ICA, Singapore

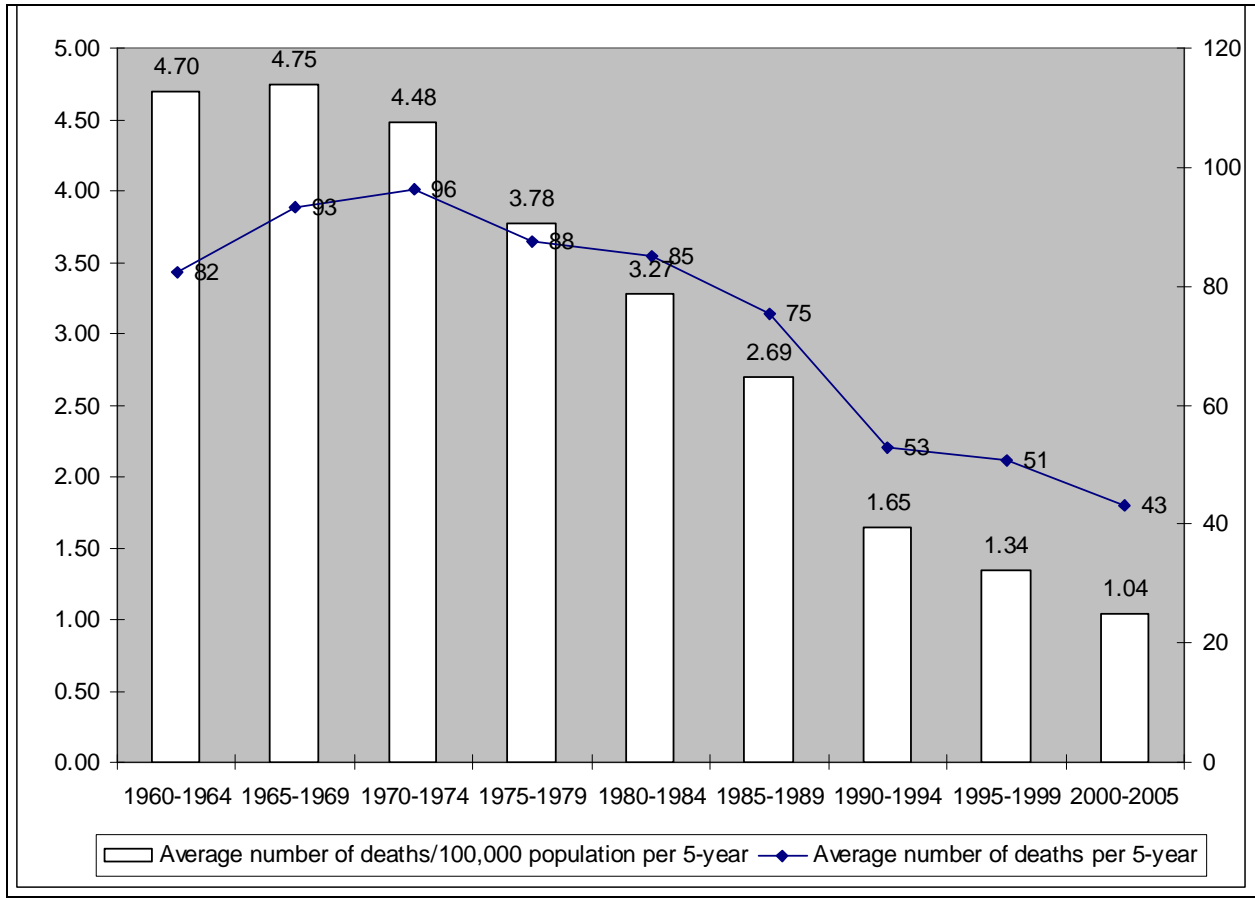
¹⁰ Causes of death follow the Mortality Tabulation List of the Ninth (1975) Revision of the International Classification of Diseases (ICD). Category E910 represents all cases of accidental drowning & submersion, whereas category E984 represents unspecified drowning & submersion. *Note:* Categories of Intentional drowning i.e. suicide have been omitted, thus not included in the above table.

¹¹ Source: Population (Mid-Year Estimates) from the Department of Statistics, Singapore (Total Population is stated to comprise all citizens and permanent residents with local residence and foreigners staying in Singapore for one year or more)

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Year	Cause of Death - Accidental drowning & Submersion (ICDE910)	Cause of Death - Submersion (Drowning) (ICDE984)	Total Population (TP)	TP per 100,000	Drowning Rate per 100,000
1995	12	19	3,525,600	35.26	0.88
1996	29	34	3,670,400	36.70	1.72
1997	28	37	3,793,700	37.94	1.71
1998	18	34	3,922,000	39.22	1.33
1999	16	27	3,950,900	39.51	1.09
2000	21	39	4,017,700	40.18	1.49
2001	25	16	4,131,200	41.31	0.99
2002	11	28	4,171,300	41.71	0.93
2003	15	21	4,185,200	41.85	0.86
2004	17	28	4,240,300	42.40	1.06
2005	27	11	4,351,400	43.51	0.87

ANNEX B – Average Unintentional Drowning Deaths and Death Rates per 5-year blocks (Singapore 1960-2005)



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ANNEX C – Taskforce Members

Name	Designation	Organisation
<u>Advisor</u> Dr Teo Ho Pin	Mayor	Northwest CDC
<u>Taskforce Chairman</u> Mr David Tan <i>(until Feb 06)</i> Mr Chan Mun Wei <i>(w.e.f Feb 06)</i>	Director, Sports	MCYS
<u>Members</u> Ms Kok Lee Kwang	Deputy Director, Curriculum Planning & Development Division (Humanities & Aesthetics)	MOE
Ms Genevieve Chye <i>(until Feb 06)</i> Ms Daphne Poon <i>(w.e.f Mar 06)</i>	Assistant Director, Curriculum Planning & Development Division (Humanities & Aesthetics)	MOE
Ms Lim Wen Chye Joey	Curriculum Planning Officer, Physical Education	MOE
Ms Delphine Fong	Deputy Director (Sports Safety)	SSC
Mr Koh Boon Aik	Deputy Director (Best Sourcing)/ Head (Health, Safety, Security and Emergency Preparedness)	PUB
Mr Lau Yew Hoong <i>(until July 06)</i> Mr Fong Ping Chiong <i>(w.e.f July 06)</i>	Deputy Director (Health, Safety, Security and Emergency Preparedness) Senior Manager, (Best Sourcing)/(Health, Safety, Security and Emergency Preparedness)	PUB
Dr Wong Mun Loke <i>(until July 06)</i> Ms V Prema <i>(w.e.f Aug 06)</i>	Head (School Health Promotion Department) Deputy Director Disease Prevention Education Dept, Youth Health Division	HPB
Mr Tan Mong Kiang	Assistant Director (Recreation) North East Community Development Division	PA
Mr Richard Tan Ming Kirk	Honorary Secretary-General	SLSS*
Mr Alfred Chua <i>(until Jun 06)</i>	Manager	SLSS*

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Mr Oon Jin Gee	Vice-President, Swimming	Singapore Swimming Association
<u>Secretariat</u>		
Mr Lim Keum Keow <i>(until Aug 06)</i>	Manager, Sports	MCYS
Mr Edwin Seah <i>(until Dec 06)</i>	Assistant Director, Sports	
Mr Melvin Yeo <i>(w.e.f. Jan 07)</i>	Assistant Director, Sports	
Ms Jamie Huang	Project Officer	

* The Singapore Life Saving Society (SLSS) is a non-profit organisation with a mission to promote aquatic safety and lifesaving. The SLSS is a charity registered under the Charities Act 1982 (Reg. No. 0002) and an Institution of Public Character. The SLSS is also a member of the National Council of Social Service, a national sports association recognised by the Singapore Sports Council, a national member of The Royal Life Saving Society, Commonwealth, and a national member of The International Life Saving Federation.

ANNEX D – Water Safety Matrix

Categorised according to Key Objectives and Population Segments

OBJECTIVES	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(A) Safety Awareness	<p><u>Proposed review of PE Syllabus</u> (Primary / Secondary / Post-Secondary)</p> <ul style="list-style-type: none"> • MOE will review the safety awareness content in the PE syllabus in 2008. • Inputs to be obtained from SSC, PA & PUB on water safety in different contexts 				
	<p><u>Proposed Water Safety Campaign</u></p> <ul style="list-style-type: none"> • To mount a national Water Safety campaign to raise public awareness of the various facets of Water Safety. This campaign should be a multi-sectoral effort involving various organisations. • SSC and SLSS could help train and identify the best and passionate speakers to promote Water Safety awareness. 				
	<p><u>Other public education initiatives for young children</u></p> <ul style="list-style-type: none"> • To distribute resources (e.g. activity booklets) to educate children on Water Safety as part of the “Safety@Play” messages. • To conduct activities (e.g. competitions) aimed at helping children learn more about Water Safety. • To organise community roadshows to educate children and parents on Water Safety. 	<p><u>Other public education initiatives for teens</u></p> <ul style="list-style-type: none"> • To consider education initiatives through small group sharing (e.g. a class at a time and not via assembly session). • To consider using celebrities as role models as they would appear “cool” and are attractive to teens. 		<p><u>Other public education initiatives for working adults</u></p> <ul style="list-style-type: none"> • To conduct training seminars to educate parents and caregivers of children on Water Safety. The proposed Water Safety campaign should also raise awareness amongst adults. • To organise community roadshows to educate children and parents on Water Safety. 	<p><u>Other public education initiatives for senior citizens</u></p> <ul style="list-style-type: none"> • Many senior citizens take up morning swimming at the swimming pools and beaches. They should be educated to avoid: <ul style="list-style-type: none"> - swimming alone; - swimming without informing their family members; - swimming too far from the shoreline, as normally seen at the East Coast beach.
(B) Swimming Proficiency	<p><u>Current programmes / schemes to promote swimming proficiency</u></p> <ul style="list-style-type: none"> • SSC Learn-to-Swim programme • National Survival Swimming Award (NASSA) Scheme 				
	<p><u>Proposed review for Swimming Programmes offered to schools</u> (Primary / Secondary / Post-Secondary schools)</p> <ul style="list-style-type: none"> • SSC and SLSS to review the safety proficiency content in their swimming programmes and to develop common standards on swimming proficiency to provide feedback to the coaches/instructors and learners • SLSS and SSC could also help to train and update instructors to better the conducting of drowning prevention activities. • SLSS and SSC to communicate with MOE PE unit and CCAB (Sports) on the desired outcomes when schools take on the swimming programmes as part of curriculum or CCA. 			<p><u>Proposed enhancements to programmes</u></p> <ul style="list-style-type: none"> • People’s Association (PA) to help drive programmes through the community clubs, using SSC pools for classes. 	
(C) Rescue	<p><u>Current arrangements for rescue (SSC pools)</u></p> <ul style="list-style-type: none"> • Deployment of trained lifeguards equipped with safety and rescue equipment like AED, Oxy-Viva, First Aid boxes, floats and spinal boards. • Emergency Rescue plan in place at every pool 				
	<p><u>Proposed review on the Rescue Segment in Swimming Programmes offered to schools</u> (Primary / Secondary / Post-Secondary)</p> <ul style="list-style-type: none"> • SSC and SLSS to work with instructors and coaches for the rescue segment to outline the desired outcomes in their programmes • SSC to communicate with MOE PE unit & CCAB(Sports) on the desired outcomes when schools take on swimming programmes as part of curriculum or CCA. 				

OBJECTIVES	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(D) Others	<p><u>Proposed Water Safety Council for Singapore</u></p> <ul style="list-style-type: none"> To establish a Water Safety Council as the national coordinating body with full ownership and authority over the issue of Water Safety. It could also act as a consultative forum involving government agencies and non-governmental organisations committed to the promotion and enhancement of Water Safety in Singapore. 				

Categorised according to Location and Population Segments

LOCATIONS	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(1) SSC Pools	<p><u>Current arrangements on Water Safety</u></p> <ul style="list-style-type: none"> Signs and Notices to Warn and Educate Users <ul style="list-style-type: none"> - Listing of Do's and Don'ts - Pool depth indicator - Water safety posters Patrons' Surveillance and Other Measures <ul style="list-style-type: none"> - Weaker swimmers are advised to use the shallow pool area - SSC can temporarily close admission in event of over crowding Future Plans <ul style="list-style-type: none"> - Revised certification and training for lifeguards - Review of work processes and enhancement of rescue equipment - Use of more pictograms and contrasting colours for safety signs and depth markers - Distribution of HPB's educational materials through SSC 				
	<p><u>Strict rules and regulations</u></p> <ul style="list-style-type: none"> Children (under 5 years old) must be accompanied by adults and are restricted to wading pool 				
(2) Club Pools	<p><u>Proposed review of site design</u></p> <ul style="list-style-type: none"> To improve safety design features of pools (with BCA's assistance) <p><u>Proposed public education initiatives</u></p> <ul style="list-style-type: none"> SSC to distribute HPB's educational materials through the club operators SSC to encourage conducting of periodical lifesaving demonstration and/or Water Safety talks. 				
(3) Private Condominium Pools	<p><u>Proposed review of site design</u></p> <ul style="list-style-type: none"> To improve safety design features of pools (with BCA's assistance) <p><u>Proposed public education initiatives</u></p> <ul style="list-style-type: none"> SSC to distribute HPB's educational materials through the Management Committees and to educate security guards about pool safety and life saving (e.g. CPR) skills. SSC to encourage conducting of periodical lifesaving demonstration and/or Water Safety talks. 				
(4) Reservoirs	<p><u>Water Safety-related guidelines enforced by the PUB</u></p> <ul style="list-style-type: none"> Only organised activities are allowed in the reservoirs. <ul style="list-style-type: none"> - Conditions including safety requirements are imposed on agencies responsible for organising the activities in the reservoirs. - All water sports / recreational activities participants must put on personal floating device while in the water. - No person is allowed to operate any boat in the reservoir without prior approval. Signboards are erected in some reservoirs to warn the public of the presence of crocodiles. No swimming (including bathing and washing) is allowed in the reservoir. Warning signs relating to safety are erected to warn the public. Fishing is allowed only at designated areas. Life buoys are provided at the designated fishing grounds/jetties. 				

LOCATIONS	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
	<p><u>Water Safety-related rules and regulations enforced by the People’s Association Sea Sports Club (PA SSC)</u></p> <ul style="list-style-type: none"> • Teens/Youths below the age of 18 must be under adult supervision (parent/guardian). Infant in arms are restricted from participating • Signs and notices to warn and educate users <ul style="list-style-type: none"> - Listing of Do’s and Don’ts - Listing of general rules and regulations and safety requirements at the operating outlet • Patrons’ surveillance and other measures <ul style="list-style-type: none"> - A safety boat is on standby if in need. - In time of bad weather, an air horn will be sounded to recall all kayakers. - For users who are not certified, they must stay within the specified demarcated area (line of sight from the operating unit). - Certified users aged 13 years and above have a larger demarcated area (with areas of the reservoir out of bounds). 				
(5) Beaches	<p><u>Water Safety-related operational considerations by the People’s Association Sea Sports Club (PA SSC)</u></p> <ul style="list-style-type: none"> • Give way to beach goers and swimmers when embarking or disembarking from crafts • Stay clear of breakwaters and retaining walls • Motorised crafts are to give way to non motorised crafts • Stay clear from fishing lines and nets • Stay close to shore/bank when new to the sport or surrounding • Stay within demarcated areas <p><u>Proposed review of safety coverage</u></p> <ul style="list-style-type: none"> • To consider deploying lifeguards during peak-hours or festivals, where there are many beach users 				
(6) Waterways (Rivers, Canals and drains)	<p><u>Water Safety-related guidelines enforced by the PUB</u></p> <ul style="list-style-type: none"> • No swimming is allowed in the waterways. • Safety railings are provided along the opened drains and canals. Warning signs are also put up in some locations to warn the public of the deep water in drains or canals. • At Singapore River, where parts of the banks are leased to adjacent land owners, the leasers are responsible for safety in their use of the land. They can opt not to use safety railings but must demarcate the edge of the river with chains, etc. The leasers have to re-erect the safety railings upon the termination of the lease. • At Sungei Tampines, there is an inflatable weir which holds back the water in the canal to form a water body for aesthetics reasons. The operation of the weir is such that when there is a storm, the weir would deflate and cause a sudden release of water downstream. For this situation, in addition to railings along the canal, there are also warning signs and sirens before operation of the weir deflation to warn of the sudden gush into the mangrove swamp downstream. No water activity is to be allowed in this canal. • For wider rivers near to the sea, the banks could be sand beaches or rock bunds. For such situations, railings may not be appropriate and warning signs are erected instead to alert the public to the danger of strong currents and deep waters. • For reservoir tidal gates, a public address system with siren were erected to warn the public to keep clear from the channel before the tidal gates are opened. 				
(7) Home Environment	<p><u>Water Safety-related guidelines as advised by the HPB</u></p> <ul style="list-style-type: none"> • Do not leave child alone in the bathroom, especially the bathtub, even for a moment. • Keep pails and basins in bathroom covered or turned over when not in use. <p><u>Proposed public education initiatives</u></p> <ul style="list-style-type: none"> • SSC to distribute HPB’s educational materials to households (HDB/ Private homes) • SSC to encourage conducting of periodical lifesaving demonstration and/ or Water Safety talks. (through Community Centres for e.g.) 				
(8) Overseas beaches & water-based bodies	<p><u>No specific arrangements/ regulations enforced at the moment</u></p>				

PA Sea Sports Club – Current Initiatives / Practices
(Kayaking, Windsurfing, Dragonboating, Sailing and Powerboating)

OBJECTIVES	LOCATION	(I) Children < 12	(II) Teens 12 – 16	(III) Youths 17 – 25	(IV) Working Adults	(V) Elderly > 60
(A) Safety	Sea Sports Clubs *	Not applicable	<u>Water Safety-related rules and regulations enforced by the People’s Association Sea Sports Club (PA SSC)</u> <ul style="list-style-type: none"> All users must use a personal floating device (PFD) All users are to check their equipment before drawing out Footwear is mandatory Demarcated areas are mapped out clearly in each club All users must state their destination and time of return Trainers in charge of respective course or activity adhere to the student to instructor ratio All instructors and staff are First Aid/CPR trained All clubs have an Emergency Action Plan (with the nearest hospital mapped out) First Aid kits and stretchers are available in the club houses In the event of bad weather and poor visibility, all users will be asked to return to the club house if possible or head to the nearest shore to wait 			
	PAddlez inc @ Bedok Reservoir	Water Safety-related rules and regulations apply (refer to the box shown on the right)				
(B) Swimming Proficiency	Sea Sports Clubs *	Not applicable	<u>Water Safety-related rules and regulations enforced by the People’s Association Sea Sports Club (PA SSC)</u> <ul style="list-style-type: none"> All course participants will be put through a 50metre swim test (water confidence). This is performed with the aid of the PFD at all beginner level courses, under the supervision of an instructor 			
	PAddlez inc @ Bedok Reservoir	<u>Water Safety-related rules and regulations enforced by the People’s Association Sea Sports Club (PA SSC)</u> <ul style="list-style-type: none"> Swimming is prohibited in the reservoirs 				
(C) Rescue	Sea Sports Clubs *	Not applicable	<u>Water Safety-related rules and regulations enforced by the People’s Association Sea Sports Club (PA SSC)</u> <ul style="list-style-type: none"> All rescue personnel use a PFD Safety boats are on standby during operational hours Rescues are performed by duty personal or trainers Rescue equipment include tow lines, throw lines and rescue buoys Emergency Rescue plan in place (with the nearest clinic/hospital mapped out) at all the clubs 			
	PAddlez inc @ Bedok Reservoir	Water Safety-related rules and regulations apply (refer to the box shown on the right)				

* Located at Changi, East Coast, Kallang and Pasir Ris

ANNEX E – Water Safety at PUB’s Water Bodies

Water safety at reservoirs

1. PUB has opened up its reservoirs for more recreational activities for the public, such as canoeing, kayaking, spot fishing etc. By so doing, PUB aims to get Singaporeans to have a new relationship with water – appreciate water, value water and at the same time, enjoy water.
2. Only organised activities are allowed in the reservoirs. PUB will refer to relevant authorities or adopt relevant codes in advising the public when activities are being held in our reservoirs.
3. Notwithstanding this, PUB has put in place the following measures to ensure the safety of the public:
 - (a) All water sports / recreational activities participants must put on personal floating device while in the water.
 - (b) Conditions including safety requirements are imposed on agencies responsible for organising the activities in the reservoirs.
 - (c) Life buoys are provided at the designated fishing grounds/jetties.
 - (d) In some reservoirs, signboards are erected to warn the public of the presence of crocodiles
4. Please note that the following are also not allowed in reservoirs:
 - (a) No swimming is allowed in the reservoir. Warning signboards relating to safety are erected to warn the public (photo 1 to 3).
 - (b) Fishing is allowed only at designated areas (photo 4).
 - (c) No person is allowed to operate any boat in the reservoir without prior approval.
 - (d) No bathing and washing are allowed in the reservoir.



Photo 1: Warning signboard at reservoir



Photo 2 : Warning signboard at reservoir



Photo 3 : NParks signboard at reservoir park



Photo 4 : Fishing ground sign

Water safety at waterway (rivers, canals, drains)

5. Water flow speed and water level in the canals and drains can increase rapidly within a very short time during a heavy downpour. PUB's Code of Practice requires safety railings to be installed for opened drains and canals with depth more than 1 metre.
6. PUB has put in place the following measures for waterways which are not covered:
 - (a) No swimming is allowed in the waterways.
 - (b) Safety railings are provided along the opened drains and canals. Warning signs are also put up in some locations to warn the public of the deep water in the drain or canals (photo 5 to 6).
 - (c) At Singapore River, where parts of the banks are leased to adjacent land owners, the leasers are responsible for safety in their use of the land. They can opt not to use safety railings but must demarcate the edge of the river with chains, etc. The leasers have to re-erect the safety railings upon the termination of the lease.
 - (d) At Sungei Tampines, there is an inflatable weir which holds back the water in the canal to form a water body for aesthetics reasons. The operation of the weir is such that when there is a storm, the weir would deflate and cause a sudden release of water downstream. For this situation, in addition to railings along the canal, there are also warning signs and sirens before operation of the weir deflation to warn of the sudden gush into the mangrove swamp downstream. No water activity is to be allowed in this canal.
 - (e) For wider rivers near to the sea, the banks could be sand beaches or rock bunds. For such situations, railings may not be appropriate and warning signs are erected instead to alert the public to the danger of strong currents and deep waters.
 - (f) For reservoir tidal gates, a public address system with siren were erected (photo 7) to warn the public to keep clear from the channel before the tidal gates are opened.



Photo 5: Warning sign along a canal



Photo 6: Multi-lingual signboard along canal



Photo 7: Beacons and warning signs