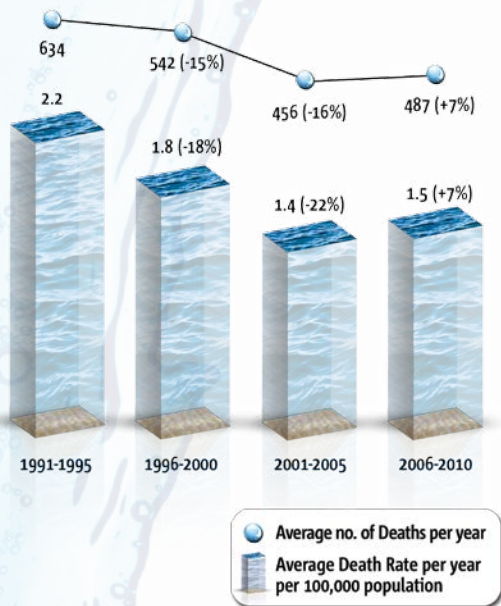


# Canadian DROWNING Report

**2013 Edition**

Prepared for the Lifesaving Society Canada by the Drowning Prevention Research Centre Canada

## Change in Number of Preventable Water-Related Deaths and Death Rates in Canada, 1991 to 2010



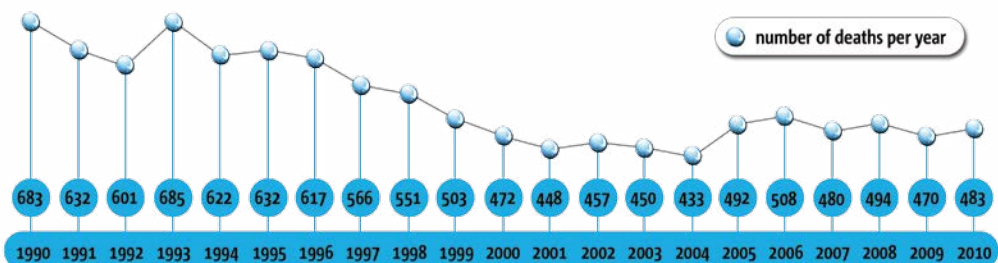
## MORE drownings as Canadians get older

**The surge in drownings continues in the latest Coroners' data.** An uptick to 483 drownings in 2010 marks the 6<sup>th</sup> successive year of 470 or more drownings in Canada (see Chart). Drownings are up 7% during the most recent 5 years (2006-2010) versus the previous 5-year average (2001-2005).

This upswing may, at least in part, reflect Canadian weather trends, particularly in the summer when participation in recreation in, on or near water is at its highest. Summer 2010 was the 3<sup>rd</sup> warmest summer on record since Environment Canada began tracking temperatures in 1948. For the total year, 2010 set a new record high, with all parts of the country above normal and the national average temperature 3°C above normal.

Taking population into account, the national water-related death rate also increased slightly to 1.5 per 100,000 population during 2006-2010, which is up 7% versus the previous 5 years (see Chart). However longer-term, the drowning death rate is down significantly from the higher drowning death rates of the 1990's (2.2 and 1.8 deaths per 100,000 recorded during 1991-1995 and 1996-2000 respectively). There has been significant **long-term** progress in reducing death by drowning in Canada, but the more recent upswing reinforces the need for continued strong drowning prevention efforts.

## Number of Preventable Water-Related Deaths in Canada, 1991 to 2010





As the Canadian population ages, the drowning prevention challenge is increasingly with “Baby Boomers”, “Seniors” and the high-risk group of 18-24-year-old men.

- The biggest increase in drownings is among “Baby Boomers” 50-64 years of age. Drownings are up among “Seniors” 65+ years as well. In contrast, encouraging progress has been made with young Canadians under 18 years of age, who have fewer drownings and lower drowning death rates.
- The risk-taking 18-24-year-olds continue to have the highest water-related death rate of any age group in Canada at 2.2 per 100,000 population.
- More drownings are happening at times that have traditionally been “off-peak” times for drowning incidents, but reflect when older victims are getting into trouble: winter/spring months, weekdays and daytime.
- More drownings are occurring during daily living activities, especially among “Baby Boomers”. Recreationally, there are more “Baby Boomer” deaths while swimming and walking near water. For powerboating, there are fewer deaths among younger adults under 50 years and more deaths among 50+ “Baby Boomers” and “Seniors”.

### Number of Canada-Wide Preventable Water-Related Deaths, 2011 to 2012

Preliminary interim data from media and Internet reports

	2011	2012
Alberta	31	29
British Columbia	54	62
Manitoba	20	14
New Brunswick	9	10
Newfoundland and Labrador	12	11
Northwest Territories	0	6
Nova Scotia	9	17
Nunavut	6	1
Ontario	97	105
Prince Edward Island	3	0
Quebec	83	77
Saskatchewan	21	10
Yukon	2	2
<b>Total</b>	<b>347</b>	<b>344</b>

# WHO is drowning?

**Drowning victims in Canada are getting older.** The 50-64-year-old population increased far faster than any other age group in Canada during the past 5 years (+19% in 2006-2010 vs. 2001-2005; four times higher than overall Canadian population growth of +5%). At the same time, we are experiencing a spike in water-related deaths among “Baby Boomers” (+34% for 50-64-year-olds). See Chart.

The second fastest growing population group in Canada is seniors 65+ years of age. The number of drowning victims who were “Seniors” increased 12% during the past 5 years, in-line with their +11% population growth.

Also contributing to more overall drownings in Canada is more deaths among 18-34-year-olds during 2006-2010. Although their population growth is more moderate (+5%), 18-34-year-olds accounted for a 19% increase in 2006-10 fatalities. In particular, **risk-taking 18-24-year-olds continue to have the highest water-related death rate of any age group in Canada** at 2.2 per 100,000; albeit improved from the even higher drowning death rate among young men in the 1990s.

**Lower numbers of deaths and death rates are especially evident among teenagers 13-17 years of age**, with fewer deaths (-26% in 2006-2010) reflecting steady progress in significantly reducing the drowning death rate.

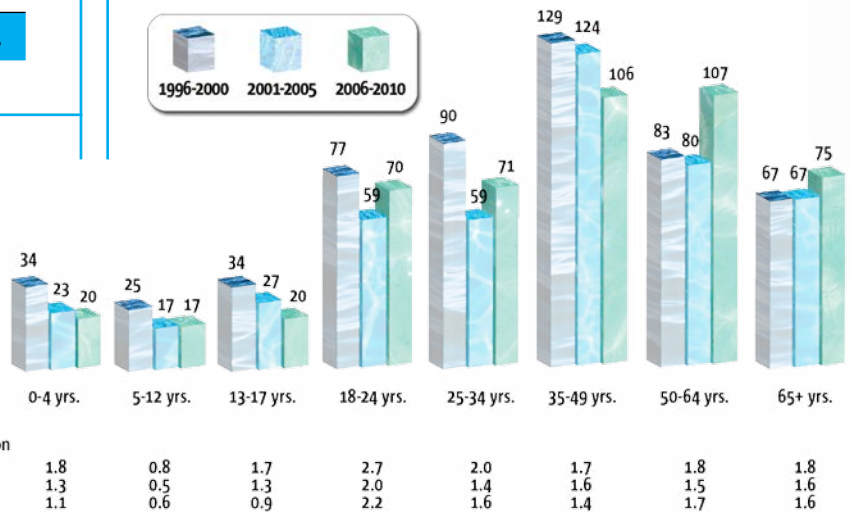
**For children under 5 years, the number of drownings is down** (-13%) in 2006-2010 compared to 2001-2005. This reflects a lower drowning death rate of 1.1 per 100,000 population, which is much improved from the early 1990s when children under 5 years had a drowning death rate as high as young, male adult risk-takers.

Drowning prevention education efforts with children and their parents appear to be having an impact. It is hoped that this will help contribute to fewer drownings in the future among older Canadians as well, as these youngsters carry safer aquatic behaviours and attitudes forward with them.

**The vast majority of drowning victims continue to be men.** Year after year, 8 out of 10 drowning victims are male. The skew to male victims is evident across all age groups, but most pronounced among 18-34-year-olds where 9 of every 10 victims are male. This reflects higher risk behaviour around water among men than women. Overall, men accounted for 83% of Canada’s water-related deaths during 2006-2010.



### Age Group Number of Preventable Water-Related Deaths and Death Rates in Canada, 1996 to 2010



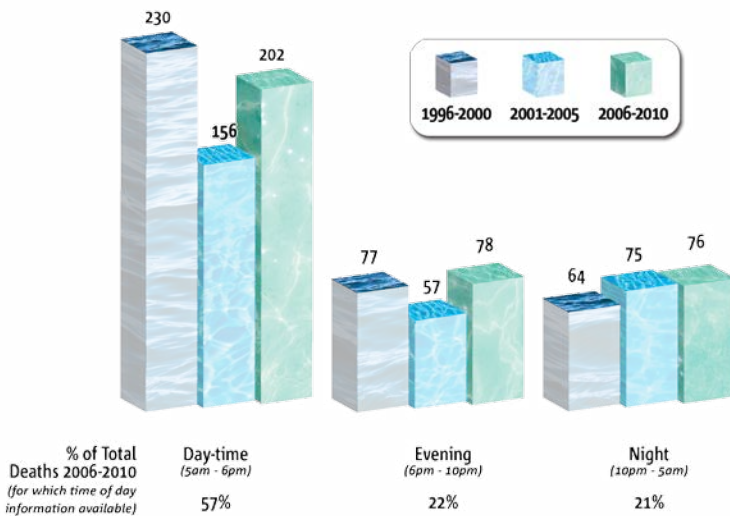
# WHEN are they drowning?

By time of year, the warmer summer months (May through August) still account for the majority (57%) of 2006-2010 drownings, peaking in July/August (34%). However, the biggest seasonal increase was during November through April (+23% during 2006-2010 vs. 2001-2005). This increase reflects more winter/spring deaths among 50-64-year-olds (+85%), on ice (+52%) and involving recreational snowmobiling (+39%).

By day of week, half (51%) of 2006-2010 fatalities occurred on the weekend (Friday-Sunday) and half (49%) during the week (Monday-Thursday). There was a bigger increase for weekday drownings (+13%) than weekends (+2%). This reflects large increases in weekday deaths among 50-64-year-old victims (+40%) and 18-34-year-old victims (+30%).

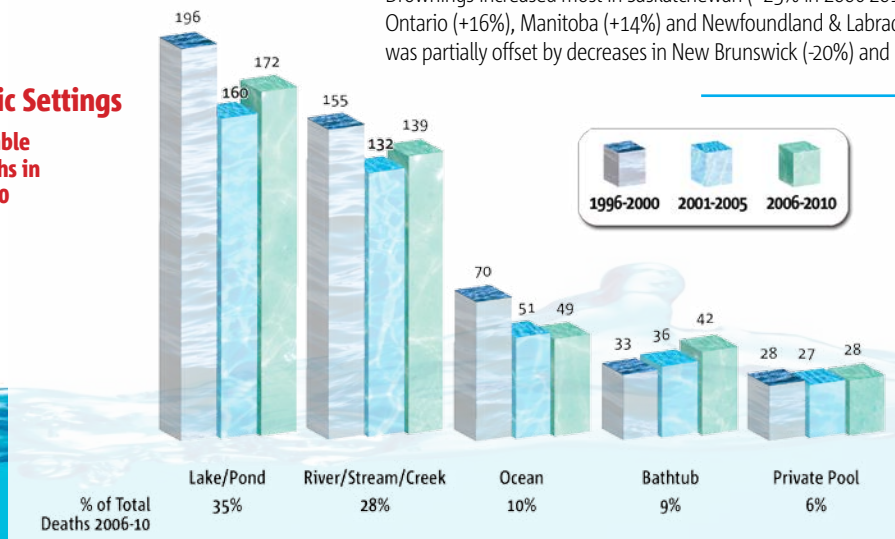
By time of day, the majority of deaths (57%) occur during daytime hours (5 a.m.-6 p.m.). Drownings increased sharply during 2006-2010 for daytime (+30%) and evening (+37%) incidents. This reflects big increases among 50-64-year-olds for daytime (+77%) and evening (+85%) deaths; and among seniors 65+ years for daytime (+49%) and evening (+224%) deaths.

## Time of Day Number of Preventable Water-Related Deaths in Canada, 1996 to 2010

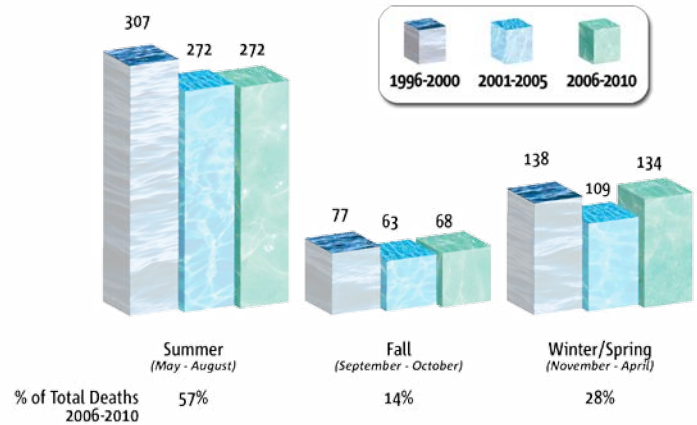


## Top Five Aquatic Settings

Number of Preventable Water-Related Deaths in Canada, 1996 to 2010



## Time of Year Number of Preventable Water-Related Deaths in Canada, 1996 to 2010



# WHERE are they drowning?

Lakes (35%) and rivers/streams (28%) continue to account for two-thirds of Canadian drownings. Bathtubs (9%) are a less frequent setting for water-related deaths, but on the increase (+17% in 2006-2010 vs. 2001-2005). Almost all (92%) bathtub victims were alone. Young children under 5 years and seniors 65+ years are especially at-risk in the bathtub – 19% and 15% of drowning deaths occurred in the bathtub for these two age groups respectively. Among 50-64-year-olds, bathtub fatalities almost tripled in 2006-2010 vs. 2001-2005, up to 9% of “Baby Boomer” drownings.

Private backyard swimming pool deaths are fewer in number (6%) and continue at about the same level as in previous years. However, backyard pools continue to be the number 1 setting where children under 5 years of age most often drown. For half of private pool fatalities for which information was available, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%).

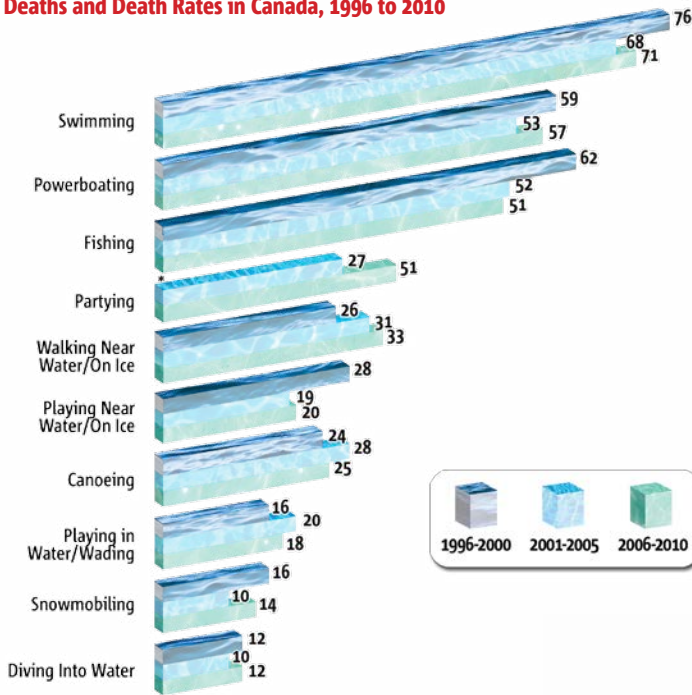
Drownings in public pools and waterparks continue to be few in number in these lifeguard-supervised environments – averaging 4 deaths per year during 2006-2010 (low of 2 in 2007 and 2010; high of 6 in each of 2006 and 2009). Children 5-12 years were the most prevalent age group, accounting for half (48%) of public pool/waterpark victims.

By region, the three northern territories have the highest water-related death rates. The next highest rates are in Newfoundland & Labrador followed by Manitoba, British Columbia, Nova Scotia and Saskatchewan (see Chart).

Drownings increased most in Saskatchewan (+25% in 2006-2010 vs. 2001-2005), Ontario (+16%), Manitoba (+14%) and Newfoundland & Labrador (+14%). This was partially offset by decreases in New Brunswick (-20%) and B.C. (-6%).



## Top Ten Recreational Activities Number of Preventable Water-Related Deaths and Death Rates in Canada, 1996 to 2010



\* not available

## WHAT were they doing?

By purpose of activity, **recreational activities continue to account for the majority of Canadian drownings** (60%) and were up slightly (+3% in 2006-2010 vs. 2001-2005). Swimming continues to account for the largest number of drownings, followed by powerboating and fishing. The biggest increase was for snowmobiling (+45%). Among 50-64-year-olds there were particularly large increases in drownings while swimming (+60%) and walking near water (+38%). For powerboating, there were fewer deaths among younger adults 18-34 years (-9%) and 35-49 years (-14%), but more deaths among "Baby Boomers" (+18%) and "Seniors" (+58%).

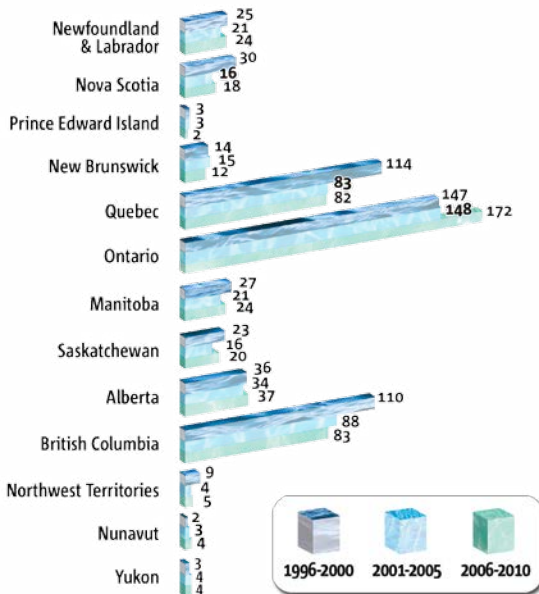
**Daily living activities continue to account for a high proportion of fatalities among seniors 65+ years (35%).**

By type of activity, **the biggest increases during 2006-2010 compared to 2001-2005 were for bathing (+18%), near-water, non-aquatic activities (+20%) and transportation incidents (+35%).**

**Boating deaths during 2006-2010 were down 7% vs. 2001-2005.** By type of craft, this reflects fewer powerboat deaths (-7%). By size of powerboat, the decrease traces to small craft 5.5 m and under (-8%). As well, there were fewer fatalities involving sailboats (-62%).

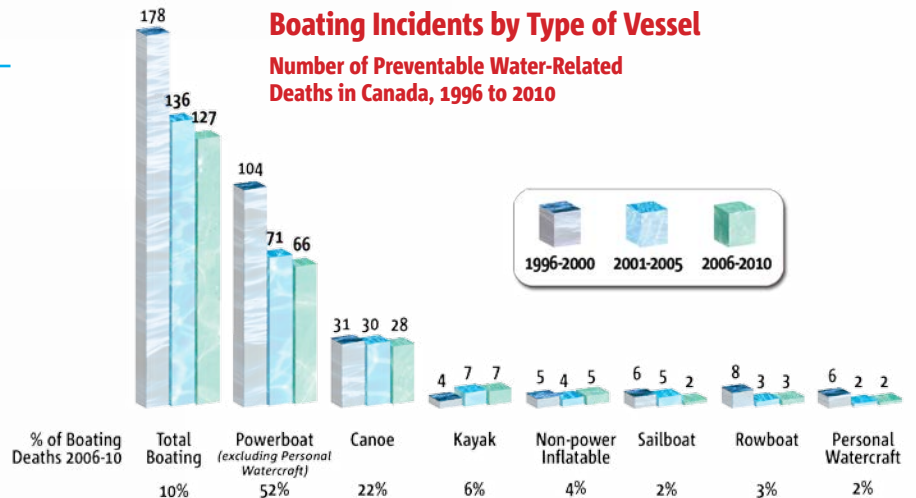
**Deaths among 50-64-year-old "Baby Boomers" were up sharply for aquatic activities (+48%) and non-aquatic activities (+52%).**

## Province and Territory Number of Preventable Water-Related Deaths and Death Rates in Canada, 1996 to 2010



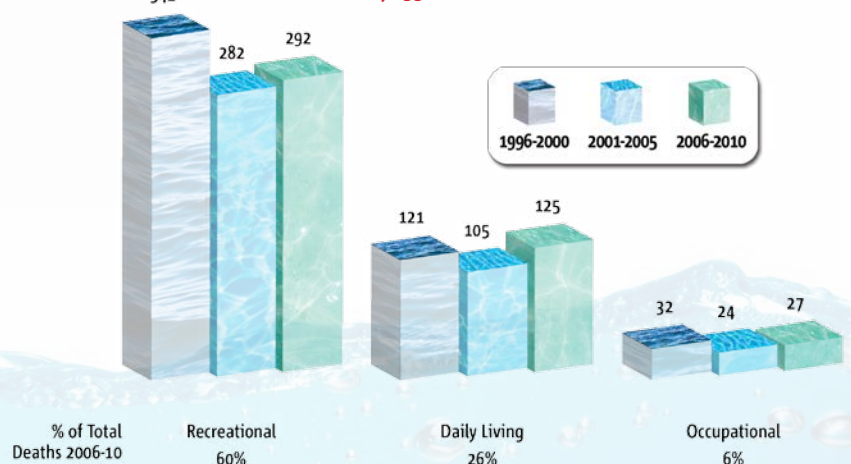
## Boating Incidents by Type of Vessel

Number of Preventable Water-Related  
Deaths in Canada, 1996 to 2010



## Type of Activity

Number of Preventable Water-Related  
Deaths in Canada, 1996 to 2010




## Key Risk Factors


Percentage of Preventable Water-Related Deaths and Death Rates in Canada, 1996 to 2010

	Total			2006–2010					
	1996 -2000	2001 -2005	2006 -2010	Boating	Swimming	Under 5 yrs.	18-34 yrs.	50-64 yrs.	65+ yrs.
PFD/lifejacket not worn (percentage of known relevant situations)	82	80	77	79	*	*	83	73	83
Alcohol consumption	33	33	36	39	32	0	51	38	20
With others	58	54	53	70	77	39	69	43	27
Alone	42	46	47	30	23	61	31	57	73
Momentary absence of caregiver**	n.a.	n.a.	32**		14	53			
Cold water	67	52	51	45	7	38	46	55	51
Rough water				21					
Capsized				37					
Fell overboard				26					
After dark	24	24	25	18	11	2	35	23	17
Heart disease	9	11	16	14	19	0	2	24	48

\* Very small sample size, too small to report.

\*\* Percentage of deaths where victim was a child less than 15 yrs. and was under adult supervision at time of incident.

Significant risk factors 

Not as applicable to these subgroups, or sample size too small to report 

## WHY did they drown? ...risk factors

The major risk factors contributing to “why” victims drowned remain consistent with those the Lifesaving Society has identified in the past.

**Boating:** Not wearing a PFD/lifejacket (79% of 2006-2010 boating deaths for which PFD information was available); cold water (45%); capsizing (37%) and falling overboard (26%), often in rough water (21%); alcoholic beverage consumption (39%); boating alone (30%) versus 70% of boating victims with companion(s) who were unable to rescue them.

**Swimming:** Victim unable to swim (34% of all victims for whom swimming ability information was available); alcohol consumption (32%); swimming alone (23%) versus 77% of swimming victims with companion(s) who could not rescue them; and heart disease/suffering a heart attack while swimming (19%).

**Children under 5 years of age:** Alone near water (61%) often during a momentary absence/lapse of caregiver attention (53%).

**Young men 18-34 years of age:** Not wearing a PFD (83% of relevant situations); alcoholic beverage consumption (51%); cold water (46%); after dark (35%); alone (31%) or 69% with companion(s) who could not rescue them.

**Baby Boomers 50-64 years of age:** Not wearing a PFD in relevant situations (73%); alone (57%) or with a companion(s) who could not rescue them (43%); cold water (55%); alcoholic beverage consumption (38%); heart disease/suffering a heart attack (24%); after dark (23%).

**Seniors 65+ years:** Not wearing a PFD in relevant situations (83%); alone (73%) or with a companion(s) who could not rescue them (27%); cold water (51%); heart disease/suffering a heart attack (48%); alcoholic beverage consumption (20%).





## RESEARCH METHODOLOGY

### Complete data from 1995-2010

The drowning research process involves data collection; research tabulation and analysis. The water-related death data is extracted from the offices of the Chief Coroners and Medical Examiners in each province/territory. The scope of this research:

- collects the data needed to profile victims of aquatic incidents, including the circumstances and contributing factors under which these incidents occurred.
- includes all deaths in each province/territory and Canada overall resulting from incidents “in, on or near” water; “near-water” incidents were included if the incident was closely related to water-based recreational, vocational or daily living activity, or if the presence of water appeared to be an attraction contributing to the incident.
- includes only preventable (unintentional) deaths. It does not include deaths due to natural causes, suicide, or homicide.

### Interim data

Complete final data on more recent drownings and other water-related deaths are not yet available from the offices of the provincial/territorial Chief Coroners and Medical Examiners. The interim, preliminary data are derived from media releases, media clippings, news reports and internet searches.

## ACKNOWLEDGEMENTS

We gratefully acknowledge the support, co-operation and efforts of:

- The Chief Coroner’s Office and the Chief Medical Examiners in each province/territory, who permitted and facilitated confidential access to coroners’ reports on preventable water-related deaths. This provided the base data for this research and report.
- The volunteers who contributed their time and energy including data extraction on preventable water-related deaths from coroners’ files.

### The Lifesaving Society

The Lifesaving Society – Canada’s lifeguarding experts – works to prevent drowning and water-related injury through its training programs, Water Smart® public education, aquatic safety management, drowning research and lifesaving sport. Annually, over 800,000 Canadians participate in the Society’s swimming, lifesaving, lifeguard and leadership training programs. The Society sets the standard for aquatic safety in Canada and certifies Canada’s National Lifeguards.



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### Drowning Prevention Research Centre Canada

The Drowning Prevention Research Centre is the lead agency for drowning and water-incident research in Canada. The Centre conducts research into fatal and non-fatal drowning, significant aquatic injury and rescue interventions. Contact Barbara Byers, Research Director, Email: [experts@drowningresearch.ca](mailto:experts@drowningresearch.ca), Telephone: 416-490-8844.

