

Canadian Drowning Report

2019 edition

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



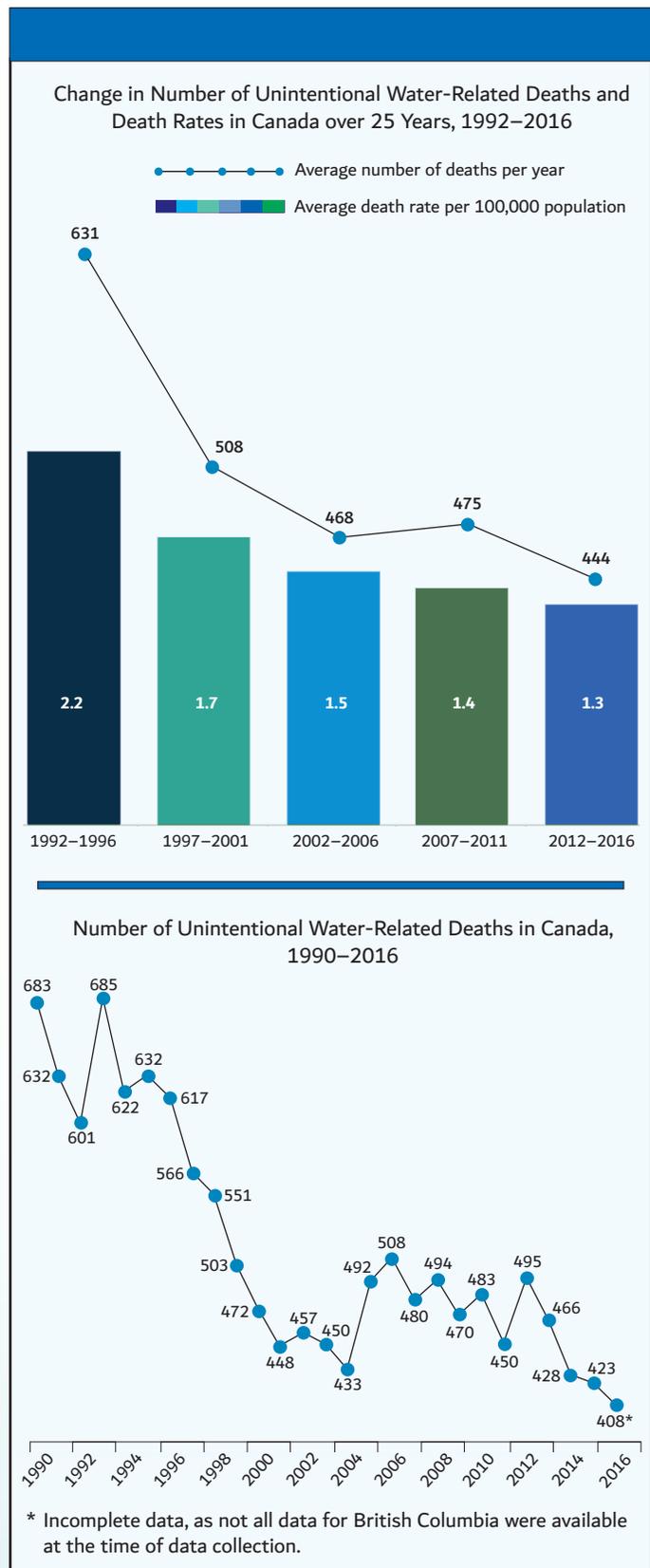
LIFESAVING SOCIETY

The Lifeguarding Experts

The long-term downward

trend of drowning deaths in Canada continued in 2016. There were 408 unintentional drowning deaths in 2016, according to the most recent data from the chief coroners' and medical examiners' offices; the lowest reported in 25 years. Note that only partial data for 2016 was available from British Columbia at the time of data collection.

An average of 444 water-related fatalities occurred each year in 2012–16, down from an average of 475 in 2007–11. The average annual water-related death rate has decreased over the past 25 years from 2.2 per 100,000 population in the early 90s to 1.3 in the most recent data (2012–16). Despite this long-term progress, high numbers of preventable drowning deaths continue to occur in Canada: a total of 2,220 people lost their lives in Canadian waters between 2012 and 2016.





Number of Canada-wide preventable water-related deaths, 2017 & 2018

Complete, final data on drowning and water-related fatalities are not yet available for 2017 and 2018. The preliminary data from media and internet reports indicate that at least 283 drowning deaths occurred in 2017 and at least 286 in 2018.

Unintentional Water-Related Fatalities by Province/Territory, 2017 and 2018

Province/Territory	2017	2018
Alberta	31	12
British Columbia	50	58
Manitoba	12	16
New Brunswick	1	4
Newfoundland and Labrador	6	11
Nova Scotia	9	18
Northwest Territories	1	3
Nunavut	3	1
Ontario	93	100
Prince Edward Island	2	5
Quebec	59	49
Saskatchewan	14	9
Yukon	2	0
Total	283	286



WHO IS DROWNING?

Age

Seniors 65 and older continue to be at high risk for drowning in Canada, with a death rate of 1.8 per 100,000 in 2012–16. The next highest rates were in young adults 20–34 (1.4 per 100,000) and older adults 50–64 (1.4 per 100,000). The highest frequency of drowning occurred among 55–59-year-olds, with an average of 40 deaths every year. Consistent with previous years, the lowest rate (0.4 per 100,000) and frequency of drowning (15/year) occurred among older children, 5–14.

In line with the overall reduction in the number of water-related deaths in Canada, drowning rates decreased in almost all age groups in 2012–16, over the previous five years. The only exceptions were among young children and older adults. The drowning rate for children under the age of 5 remained consistent (1.0 per 100,000 population).

The only increase was observed in seniors 65 and older — from 1.7 per 100,000 in 2007–11 to 1.8 in 2012–16, with 70–79-year-olds finding the greatest increase in this age group (+24%).

Sex

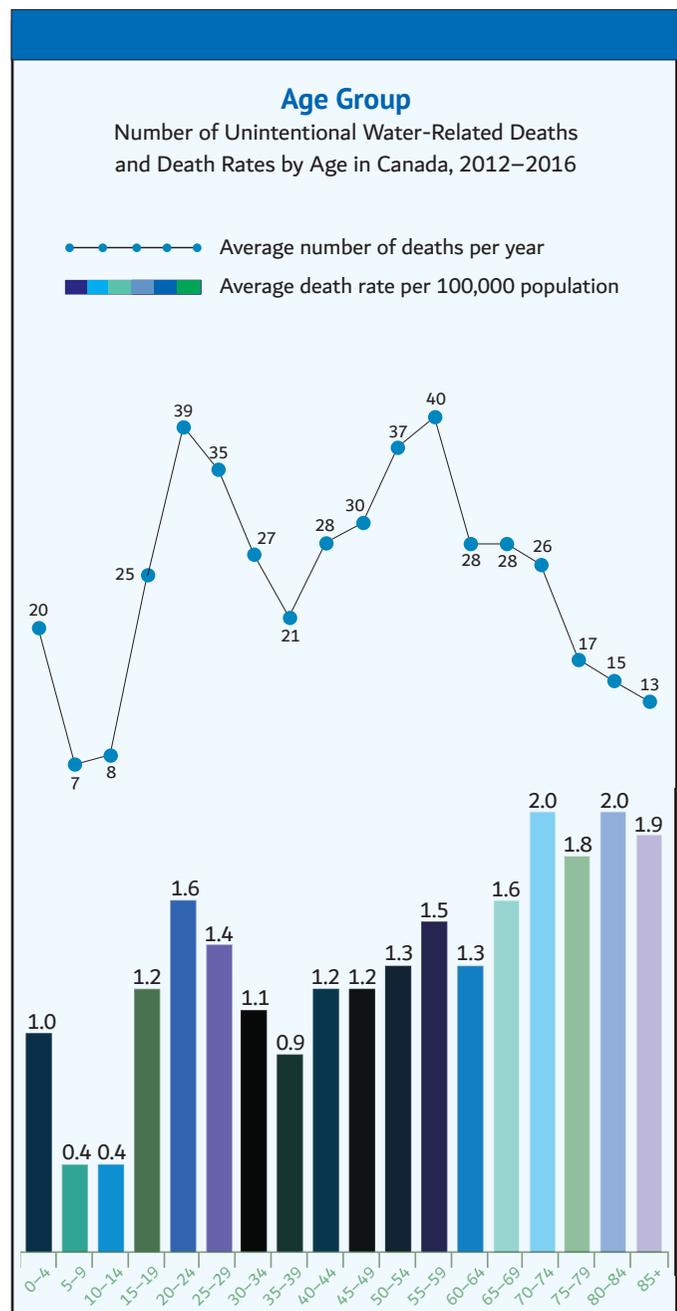
Consistent with previous years, water-related deaths in 2012–16 were dominated by males. An average of 349 males drowned each year, accounting for 79% of all deaths, and contributing to a rate of 2.0 per 100,000 population. In comparison, an average of 95 females drowned each year (21% of water-related fatalities) — a rate of 0.5 per 100,000 population.

Ethnicity

Drowning rates are higher among Indigenous peoples compared to non-Indigenous Canadian residents. In the 2012–16 period, an average of 46 people who drowned each year (10% of all drowning fatalities) were reported to be Indigenous.

Comparatively, approximately 5% of the Canadian population identifies as Indigenous.

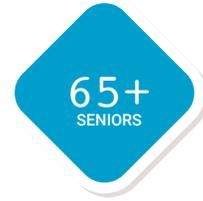
The Drowning Prevention Research Centre Canada continues to explore the risk of drowning for newcomers to Canada. Unfortunately, obtaining this information continues to be difficult; country of birth could not be determined in over half (55%) of all cases. From cases where the information was available, we know that between 2012 and 2016, 115 drowning victims were reported to have been born outside Canada.





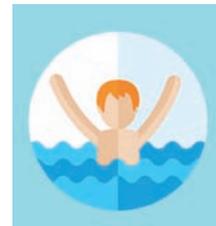
Drowning Victims

Seniors People 65 and older had the highest rate of all age groups.



Older seniors The largest increase was observed among ages 70–79.

Males Approximately 8 out of 10 were male.



WHEN ARE THEY DROWNING?

Although water-related fatalities occur in every month of the year, the majority continued to occur during the warmest months. Approximately two-thirds (66%) of all drowning deaths in 2012–16 occurred from May to September. Water-related fatalities most frequently occurred in July, with an average of 83 drowning deaths (19%) each year.

Over half (52%) of water-related fatalities in 2012–16 occurred on the weekend (Friday to Sunday). Saturdays were the most frequent day when drowning deaths occurred (90 per year, 20%).



WHERE ARE THEY DROWNING?

Body of water

Consistent with previous years, the majority of drowning deaths in Canada occurred in natural bodies of water (69%). Between 2012 and 2016, lakes and ponds (34%) were the most frequent location for water-related deaths, followed by rivers and streams (28%). On average, 276 people drown in one of these two settings each year. The locations of drowning incidents varied by province; the Atlantic provinces and the territories had even higher proportions of drowning fatalities in natural bodies of water than other provinces: Newfoundland and Labrador (94%), Prince Edward Island (100%), Nova Scotia (92%), New Brunswick (90%), Northwest Territories (100%), Nunavut (100%), and Yukon (94%).

Bathtubs (12%) continued to be a common setting for drowning in 2012–16. An average of 52 water-related deaths occurred in bathtubs each year. Bathtub drowning deaths most frequently occurred in Ontario (47% of all bathtub drownings), followed by Alberta (18%), Quebec (16%), and British Columbia (10%).

After bathtubs, pools (9%) were the next most common artificial setting where drowning deaths occurred. Private pools (87%) accounted for the majority of pool-related drowning deaths, with an average of 33 water-related fatalities each year. The highest incidence of private-pool fatalities occurred in Ontario (17 per year) followed by Quebec (10 per year). It is difficult to obtain detailed information on fences and gates from backyard-pool drowning cases. In instances where this information was available, 39% of the pools had no fence or had a non-compliant fence, and 74% had either no gate or a gate that was neither self-closing nor self-latching.

Few drowning deaths occur in lifeguard-supervised settings such as public pools and waterfronts (less than 1%).

Drowning can happen in any water, but the most common locations of water-related fatalities vary by age. Young and middle-aged adults most commonly drown in natural bodies of water, such as lakes and rivers. Young children and seniors over 65 are vulnerable groups for drowning in artificial bodies of water, such as bathtubs and pools. Bath-

Body of Water

Average Number of Deaths per Year and Percentage of Unintentional Water-Related Deaths in Canada, 2007–2016

	2007–11	2012–16
Lake or Pond	182 (38%)	153 (34%)
River/Creek/Stream	134 (28%)	123 (28%)
Ocean	46 (10%)	33 (7%)
Bathtub	42 (9%)	52 (12%)
Private Pool	28 (6%)	33 (7%)
Ditch/Culvert	14 (3%)	13 (3%)
Hot Tub/Whirlpool	8 (2%)	7 (2%)
Public Pool	3 (1%)	5 (1%)
Canal	3 (1%)	1 (0%)
Dam	2 (0%)	2 (0%)
Quarry	2 (0%)	2 (0%)
Dugout/Retention Pond	1 (0%)	4 (1%)
Other/Unknown	10 (2%)	16 (4%)

Most Vulnerable

Bathtubs/pools Children and seniors.



Lakes/rivers Young/middle-aged adults.



Province and Territory

Average Water-Related Death Rates per 100,000 per Year, 2012–2016



Average Annual Deaths (rate per 100,000)

	2007–11	2012–16
Newfoundland & Labrador	22 (4.2)	15 (2.9)
Prince Edward Island	1 (0.9)	1 (0.7)
Nova Scotia	17 (1.8)	13 (1.4)
New Brunswick	13 (1.7)	10 (1.3)
Quebec	83 (1.1)	78 (1.0)
Ontario	167 (1.3)	152 (1.1)
Manitoba	28 (2.3)	21 (1.6)
Saskatchewan	21 (2.0)	25 (2.3)
Alberta	35 (1.0)	44 (1.1)
British Columbia	78 (1.8)	74 (1.6)
Northwest Territories	3 (6.9)	4 (8.2)
Nunavut	5 (14.1)	4 (10.0)
Yukon	4 (10.6)	3 (8.6)

tubs were the second most common setting where seniors, who had the highest death rate of all age groups, drowned (second only to lakes and ponds). In 2012–16, seniors more frequently drowned in a bathtub (20%) than in a river (18%).

Provinces and territories

As in previous years, the average water-related fatality rates in the territories were higher than anywhere else in Canada; Nunavut (10.0 per 100,000), the Yukon (8.6 per 100,000), and the Northwest Territories (8.2 per 100,000). After the territories, the next-highest drowning rates were found in Newfoundland and Labrador (2.9 per 100,000), followed by Saskatchewan (2.3).

Death rates decreased in 10 of the 13 provinces and territories in 2012–16, in line with the over-

all decrease. The largest decreases occurred in Newfoundland and Labrador (–31%), followed by Manitoba (–30%) and Nunavut (–29%).

Small increases in the drowning and water-related fatality rates were reported in the Northwest Territories (+19%), Alberta (+10%), and Saskatchewan (+15%).

Urban versus rural location

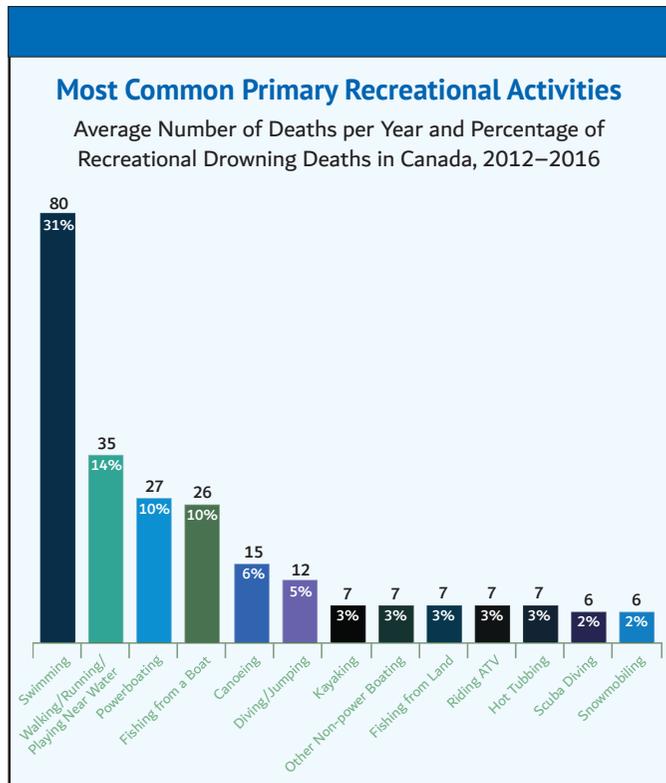
Nearly half (44%) of those who drowned in rural areas were not rural residents. A disproportionately high number of people drowned in rural environments: less than 20% live in a rural area, yet 35% of all drowning fatalities occurred there. The areas of Canada with the highest proportion of rural drownings were Nunavut (94%), Saskatchewan (79%), the Northwest Territories (67%), and Manitoba (63%).



WHAT WERE THEY DOING?

Purpose of activity

Recreational activities continued to account for the majority of drowning deaths in Canada in 2012–16. An average of 258 water-related fatalities each year (58% of all water-related deaths) occurred while people were recreating in, on, or near the water. Consistent with previous years, the most common recreational activities were swimming (31%), walking, running, or playing near water or on ice (14%), and powerboating (10%).



Purpose of Activity

Unintentional Drownings per Year in Canada,
Average Number and Percentage
2007–11 2012–16



Recreational
288 (61%)
258 (58%)

Daily Living
121 (25%)
131 (29%)



Occupational
25 (5%)
18 (4%)



Attempting Rescue
9 (2%)
7 (2%)



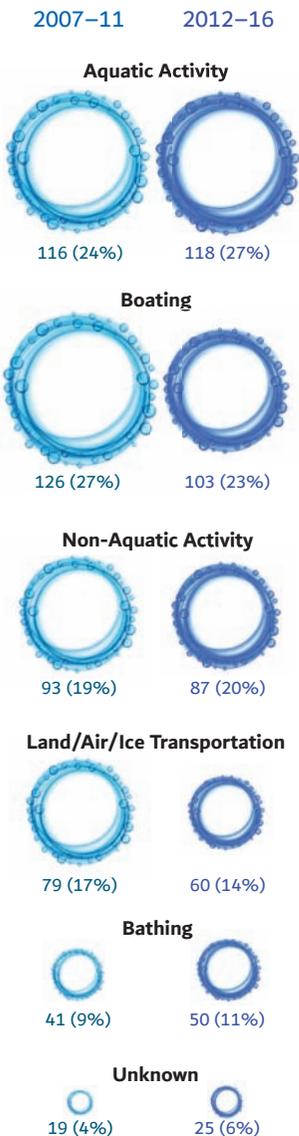
Unknown
32 (7%)
30 (7%)

Daily living activities (29%) were the next most common, and deaths continued to increase in this category despite an overall decrease in drowning fatalities. Between 2012 and 2016, an average of 131 (29%) people drowned annually while engaged in routine daily activities (up from an average of 121 per year, 25% of all drowning fatalities in 2007–11). Bathing (38%) and motor-vehicle travel (28%) were the most common daily living activities engaged in prior to drowning. A higher proportion of daily-living-related drowning deaths occurred in Saskatchewan (57%), Nunavut (50%), and the Northwest Territories (39%) than in other provinces and territories.

Fewer drowning incidents involved occupational activities (4%) or attempting to rescue another person who was drowning (2%). The highest proportion of occupational drowning deaths occurred in New Brunswick (16%), followed by Newfoundland and Labrador (13%). Commercial fishing accounted for 72% of these deaths.

Type of Activity

Unintentional Drownings per Year in Canada, Average Number and Percentage



Type of activity

Aquatic activities (27%) where the victim intended to be in the water but something went wrong were the most frequent type of activity in drowning deaths. An average of 118 people drowned each year while engaged in an aquatic activity. Despite the overall decrease in the number of water-related fatality deaths in Canada in 2012-16, the number and proportion of aquatic-activity drowning deaths increased (up from 116 per year, 24% in 2007-11).

An average of 103 people drowned each year while engaged in powered or non-powered boating, making it the next most common type of activity linked with drowning deaths (23%). The number of boating-related deaths is down from 126 per year in 2007-11 (27%), when it was the most common related activity. Unintended water entry (such as an unexpected fall into water) during a non-aquatic activity accounted for the next greatest proportion of incidents (20%). An average of 87 people drowned each year after falling into water.

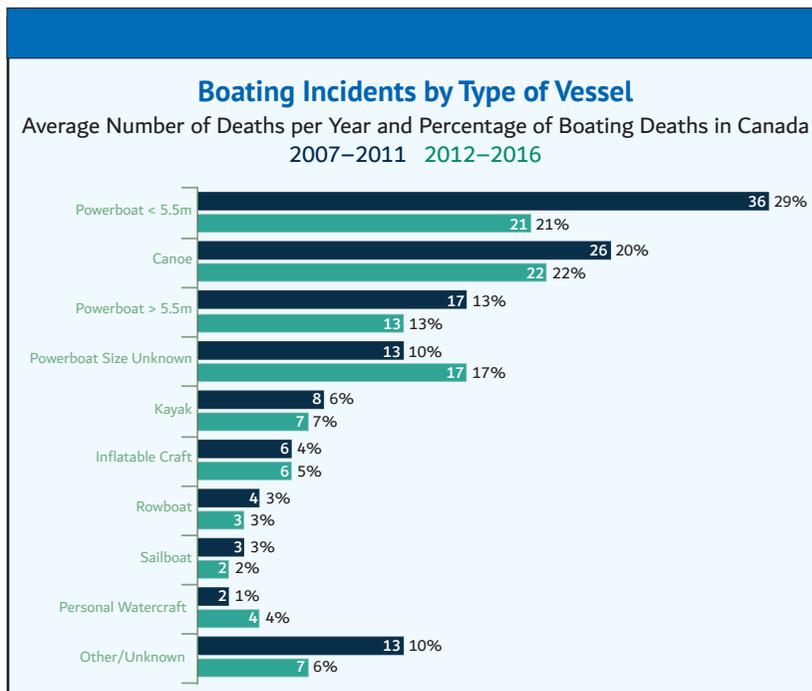
While drowning deaths during bathing are less frequent compared to other activities, their number and proportion continued to increase. A yearly average of 50 drowning deaths occurred while the person was bathing (11%), up from 41 (9%) in 2007-11.

Boating

Powerboats were consistently the craft most often involved in boating-related drowning fatalities: an average of 55

(54%) powerboat-related deaths occurred each year. Small powerboats less than 5.5 metres long were more commonly involved in drowning fatalities (21%) than large powerboats (13%) or personal watercraft (4%). Canoes were the next most common vessel in boating incidents; each year, an average of 22 people (22%) drowned while canoeing.

In boating-related deaths for which personal flotation device (PFD) information was available, 81% were not wearing one at the time of the incident and an additional 5% were not wearing one properly. Of those known not to be wearing a PFD or lifejacket, at least 34% had a lifejacket present in the boat but were unable to put it on during the incident. Alcohol consumption was a factor in 35% of boating-related fatalities. The most common types of boating incidents that led to drowning were capsizing (42%) and falling or being thrown overboard (29%).



WHY DID THEY DROWN? ...RISK FACTORS

The major risk factors contributing to water-related fatalities in Canada remain consistent with those identified in previous years. They are summarized here by most common activities (swimming and boating), as well as by age group.

Boating

- ⦿ Not wearing a PFD/lifejacket (81%, where information available)
- ⦿ Cold water (65%, where information available)
- ⦿ Consuming alcohol (35%)
- ⦿ Capsizing (42%)
- ⦿ Boating alone (30%)
- ⦿ Falling or being thrown overboard (29%)
- ⦿ Boating in darkness or twilight (22%)
- ⦿ Boating in rough water (22%)

Swimming

- ⦿ Weak or non-swimmer (31%, where information available)
- ⦿ Consuming alcohol (32%)
- ⦿ Swimming alone (27%)
- ⦿ Heart disease/sudden cardiac event while swimming (20%)

0-4

- ⦿ Alone near water (64%)
- ⦿ Supervision absent (71%)
- ⦿ Supervision present but distracted (25%)
- ⦿ With other minors only (22%)

5-14

- ⦿ Not wearing a PFD when recommended (67%, where information available)
- ⦿ Alone or with other minors only (53%)

15-19

- ⦿ Not wearing a PFD when recommended (94%, where information available)
- ⦿ Consuming alcohol (38%)
- ⦿ Alone (27%)
- ⦿ Being in, on, or near the water after dark (24%)

20-34

- ⦿ Not wearing a PFD when recommended (87%, where information available)
- ⦿ Consuming alcohol (49%)
- ⦿ Alone (33%)
- ⦿ Being in, on, or near the water after dark (21%)

35-64

- ⦿ Not wearing a PFD when recommended (78%, where information available)
- ⦿ Alone (53%)
- ⦿ Consuming alcohol (43%)

65+

- ⦿ Not wearing a PFD when recommended (79%, where information available)
- ⦿ Alone (72%)
- ⦿ Consuming alcohol (19%)



Research methodology

Complete data from 1990–2016

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. This research:

- collects the data needed to profile victims of aquatic incidents, including circumstances and contributing factors.
- includes all deaths in each province/territory 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 contribute to the activity.
- includes only 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, cooperation, and efforts of:

- The chief coroners’ and the chief medical examiners’ offices in each province/territory,



who permitted and facilitated confidential access to the coroners’ reports on unintentional water-related deaths that provided the base data for this report.

- The volunteers who contributed their time and energy to extract data on preventable water-related deaths from coroners’ files.
- Tessa Clemens, the primary author and data analyst for this report, and Lucie Simoes, who provided data input and verification.
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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. More than 1.2 million Canadians participate in the Society's swimming, lifesaving, lifeguard and leadership-training programs every year. The Society sets the standard for aquatic safety in Canada and certifies Canada's National Lifeguards.

CONTACT US

National Office

613-746-5694
experts@lifesaving.ca
www.lifesaving.ca

Manitoba

204-956-2124
info@lifesaving.mb.ca
www.lifesaving.mb.ca

Nova Scotia

902-425-5450
experts@lifesavingsociety.ns.ca
www.lifesavingsociety.ns.ca

British Columbia and Yukon

604-299-5450
info@lifesaving.bc.ca
www.lifesaving.bc.ca

Ontario

416-490-8844
experts@lifeguarding.com
www.lifesavingsociety.com

Prince Edward Island

902-368-7757
info@lifesavingsocietypei.ca
www.lifesavingsocietypei.ca

Alberta and Northwest Territories

780-415-1755
experts@lifesaving.org
www.lifesaving.org

Quebec

514-252-3100
alerte@sauvetage.qc.ca
www.sauvetage.qc.ca

Newfoundland and Labrador

709-576-1953
info@lifesavingnl.ca
www.lifesavingnl.ca

Saskatchewan

306-780-9255
lifesaving@sasktel.net
www.lifesavingsociety.sk.ca

New Brunswick

506-455-5762
info@lifesavingnb.ca
www.lifesavingnb.ca



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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, experts@drowningresearch.ca, 416-490-8844.