Canadian Drowning Report

2018 edition

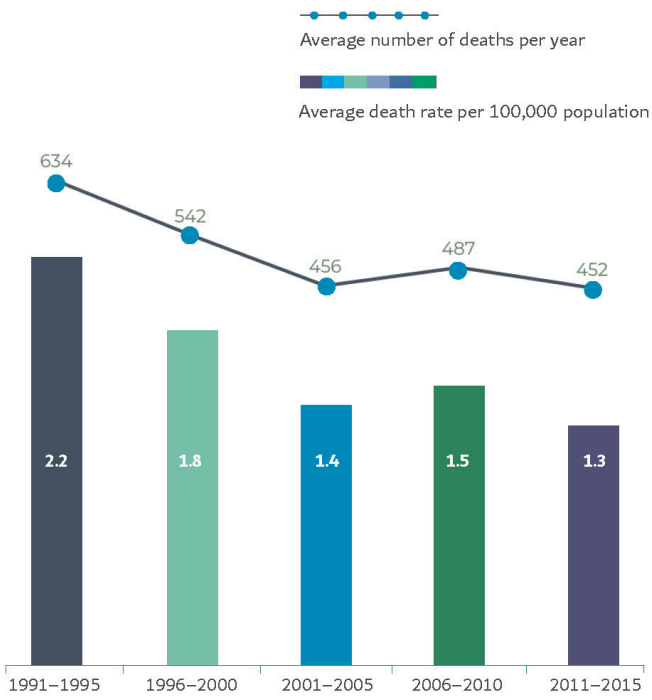
Prepared for the
Lifesaving Society Canada
by the Drowning Prevention
Research Centre Canada

LIFESAVING SOCIETY®
The Lifeguarding Experts

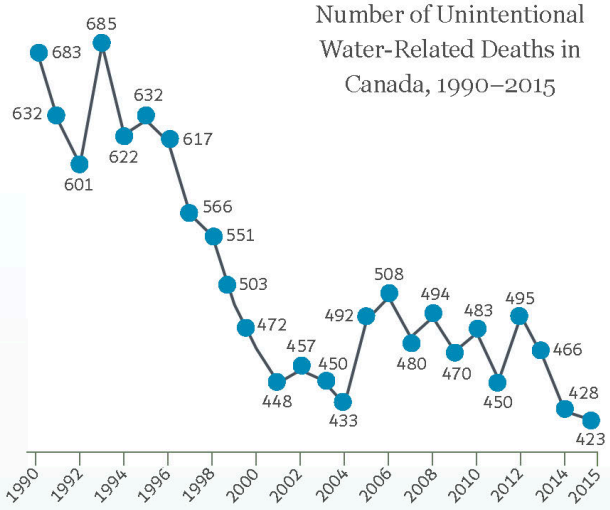
The year 2015 *saw the lowest number of drowning deaths reported in 25 years. There were 423 unintentional water-related fatalities in Canadian waters in 2015, according to the most recent data from each province and territory's chief coroners' and chief medical examiners' offices.*

Average annual drowning deaths in Canada are down to 452 people (in 2011–15), from 487 annually in 2006–10. 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 (1991–95) to 1.3 per 100,000 population in the most recent data (2011–15). Despite this long-term progress, high numbers of preventable water-related fatalities continue to occur in Canada: a total of 2,262 people lost their lives in Canadian waters between 2011 and 2015.

Change in Number of Unintentional Water-Related Deaths and Death Rates in Canada over 25 Years, 1991–2015



Number of Unintentional Water-Related Deaths in Canada, 1990–2015



Water image designed by Freepik

Number of Canada-wide unintentional water-related deaths, 2016 & 2017

Complete, final data on drowning and water-related fatalities are not yet available for 2016 and 2017. The preliminary data from media and internet reports indicate that at least 297 drowning deaths occurred in 2016 and at least 283 in 2017.

Unintentional Water-Related Fatalities
by Province/Territory, 2016 and 2017

Province/Territory	2016	2017
Alberta	14	31
British Columbia	56	50
Manitoba	14	12
New Brunswick	10	1
Newfoundland and Labrador	10	6
Nova Scotia	7	9
Northwest Territories	0	1
Nunavut	1	3
Ontario	117	93
Prince Edward Island	1	2
Quebec	57	59
Saskatchewan	9	14
Yukon	1	2
Total	**297**	**283**

WHO IS DROWNING?

Age

The highest water-related fatality rates in 2011–15 were found among seniors aged 65 and older (1.8 per 100,000) and young adults aged 20–34 (1.5 per 100,000). The highest frequency of drowning occurred among 20-to-24-year-olds and 55-to-59-year-olds; every year, an average of 41 water-related fatalities occurred in each of these age groups. The lowest drowning rates were found among young people 5–14 (0.4 per 100,000).

Drowning rates decreased in most age groups. The largest decreases were observed in middle-aged adults 35–39 (–36% from 1.4 per 100,000 in 2006–10 to 0.9 in 2011–15), children aged 5–14 (–36% from 0.6 per 100,000 in 2006–10 to 0.4 in 2011–15), and 60-to-64-year-olds (–30% from 1.8 per 100,000 in 2006–10 to 1.2 per 100,000 in 2011–15).

The only increase was observed in older adults, 70 to 85 years of age. Water-related fatality rates in this group rose an average of 20% to be among the highest of all age groups.

Sex

Males continue to have much higher drowning rates than females. Consistent with previous years, approximately 8 out of 10 drowning victims (79%) were male: an annual average 359 water-related fatalities from 2011 to 2015, at a rate of 2.1 per 100,000 population. In comparison, an average of 93 females drowned each year—a rate of 0.5 per 100,000 population.

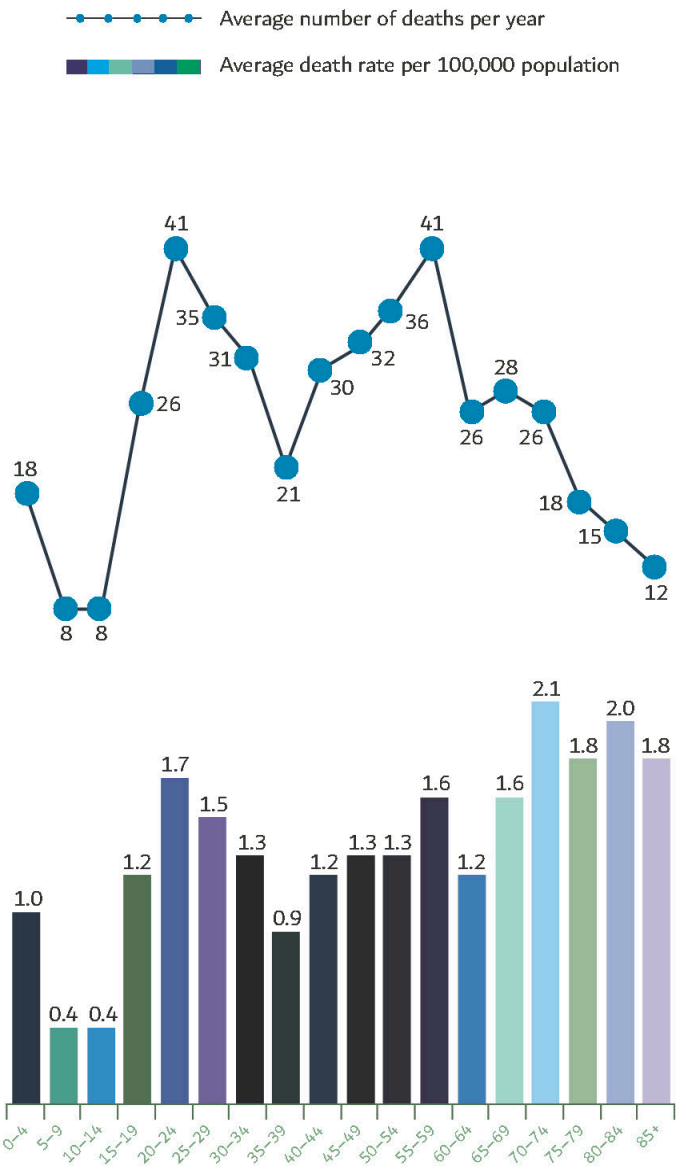
Ethnicity

Drowning rates are higher among Indigenous peoples compared to non-Indigenous Canadian residents. In the 2011–15 period, an average of 47 people who drowned each year (10% of all drowning fatalities) were reported to be Indigenous. Comparatively, approximately 4% 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 (56%) of cases. From cases where the information was available, we know that between 2011 and 2015, 93 drowning victims were reported to have been born outside Canada.

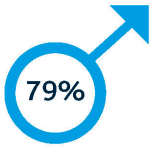
Age Group

Number of Unintentional Water-Related Deaths and Death Rates by Age in Canada, 2011–2015



Swimmer icon designed by Freepik

Age groups The greatest proportion of drowning deaths occurred in those 65+ and 20–34 years old.



Males Approximately 8 out of 10 drowning victims were male: 2.1 per 100,000 population.

Females The national drowning rate for females is 0.5 per 100,000 population.

WHEN ARE THEY DROWNING?

Drowning deaths occur in every month of the year, but the majority occur during the warmest months. May to September saw over two-thirds (68%) of all water-related fatalities in the 2011–15 period. July sees the most incidents, with an average of 90 drowning deaths (20%) each year.

Water-related fatalities occur on each day of the week, though over half (53%) in 2011–15 occurred on the weekend (Friday to Sunday). Saturdays see an average of 96 drowning deaths (21%) each year.

WHERE ARE THEY DROWNING?

Body of water

Natural bodies of water continue to see the majority of drowning deaths in Canada. Between 2011 and 2015, almost three-quarters (72%) of water-related fatalities occurred in lakes and ponds (36%), rivers and streams (28%), and oceans (8%). On average, 322 people drown in one of these three settings each year. Consistent with previous years, the locations of drowning incidents varied by province; the Atlantic Provinces had even higher proportions of drowning fatalities in natural bodies of water than other provinces: Newfoundland and Labrador (95%), Prince Edward Island (100%), Nova Scotia (94%), and New Brunswick (87%), and the territories (Northwest Territories [100%], Nunavut [95%], and Yukon [94%]).

Consistent with previous years, bathtubs were the number-one artificial setting for drowning deaths (11%). The highest incidence of bathtub drowning deaths once again occurred in Ontario (25 per year), followed by Alberta (8 per year), Quebec (8 per year), and British Columbia (5 per year); these contribute 16%, 19%, 10%, and 7%, respectively, of these provinces' total drowning deaths.

An average of 36 drowning deaths per year occurred in a pool in 2011–2015, accounting for 8% of all unintentional water-related fatalities; most continue to occur in private pools (87%). The highest incidence of private-pool fatalities occurred in Ontario (16 per year), followed by Quebec (9 per year); these are 10% and 12% of each province's total drowning deaths, respectively. It is difficult to obtain detailed information on fences and gates from backyard-pool drowning cases. In instances where this information was available, 42% of the pools had no fence present or had a non-compliant fence, and 70% 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. Approximately 1% of all water-related fatalities occurred in a setting supervised by lifeguards. Consistent with previous years, the location of water-related fatalities varied by age group. 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. In 2011–15, 100% of drowning

Body of water Average Number of Deaths per Year and Percentage of Unintentional Water-Related Deaths in Canada, 2006–2015

	2006–2010	2011–2015
Lake or Pond	185 (38%)	161 (36%)
River/Creek/Stream	139 (28%)	125 (28%)
Ocean	49 (10%)	36 (8%)
Bathtub	42 (9%)	50 (11%)
Private Pool	28 (6%)	31 (7%)
Ditch/Culvert	15 (3%)	14 (3%)
Hot tub/Whirpool	9 (2%)	8 (2%)
Public Pool	4 (1%)	5 (1%)
Canal	4 (1%)	2 (<1%)
Dam	1 (<1%)	3 (1%)
Quarry	1 (<1%)	2 (<1%)
Other/Unknown	10 (4%)	13 (3%)

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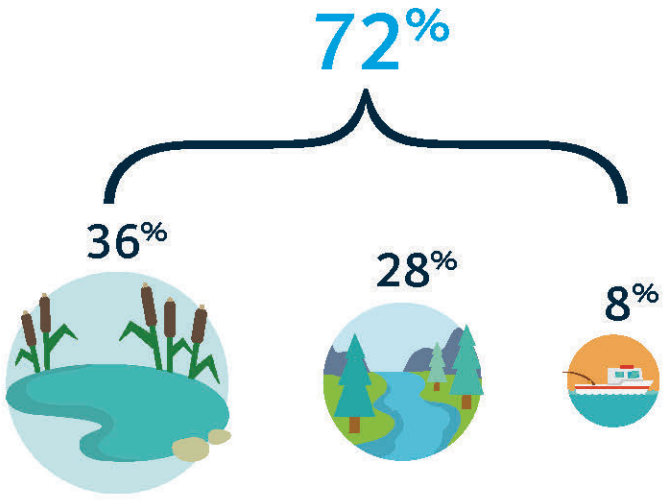
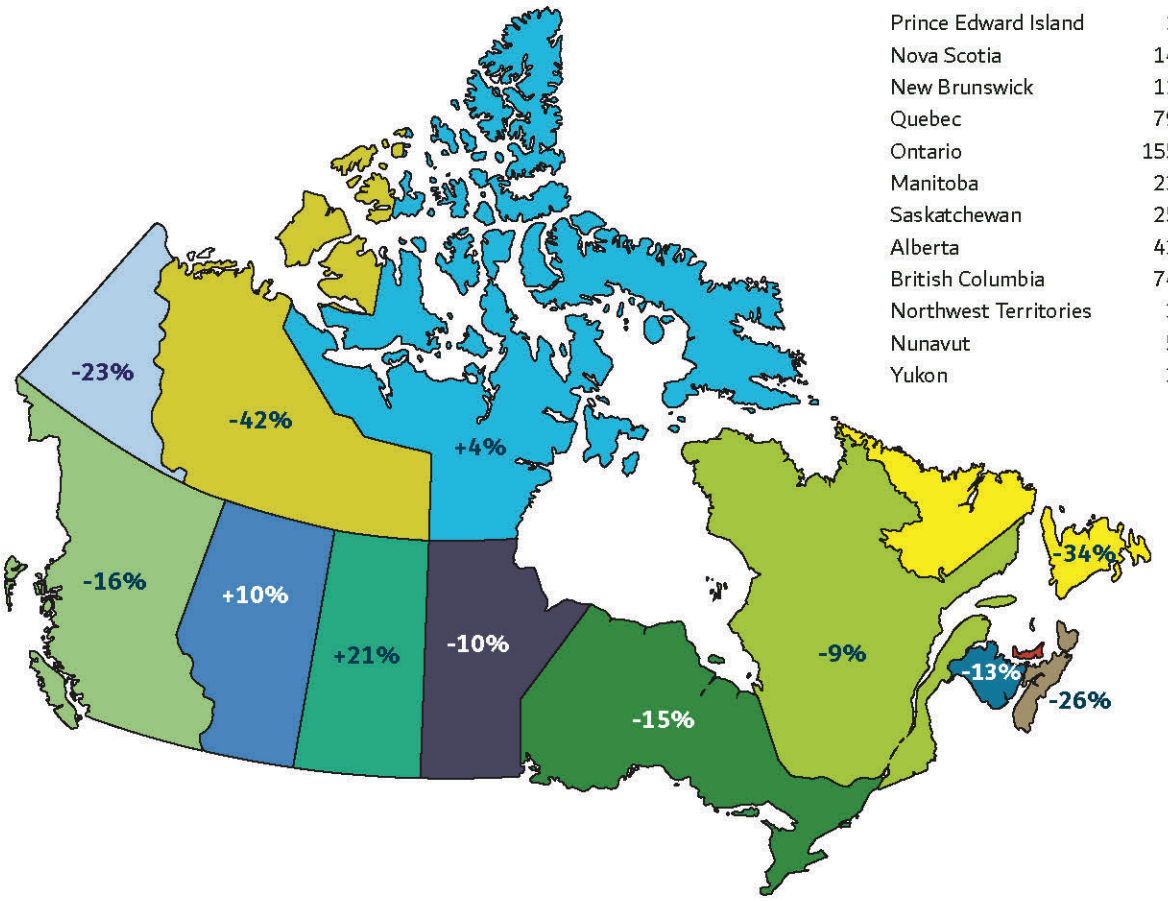


Images designed by macrovector / freepik

Province and Territory Changes in Drowning Death Rates from 2006–2010 to 2011–2015



	Total (rate per 100,000)	
	2011–15	**2006–10**
Newfoundland & Labrador	16 (3.1)	24 (4.7)
Prince Edward Island	1 (0.7)	2 (1.3)
Nova Scotia	14 (1.4)	18 (1.9)
New Brunswick	11 (1.4)	12 (1.6)
Quebec	79 (1.0)	82 (1.1)
Ontario	155 (1.1)	172 (1.3)
Manitoba	23 (1.8)	24 (2.0)
Saskatchewan	25 (2.3)	20 (1.9)
Alberta	43 (1.1)	37 (1.0)
British Columbia	74 (1.6)	83 (1.9)
Northwest Territories	3 (7.3)	5 (12.5)
Nunavut	5 (13.6)	4 (13.1)
Yukon	3 (9.3)	4 (12.0)

deaths among infants under a year old occurred in bathtubs, and 33% of all senior drowning fatalities occurred in either a bathtub or a pool. Private backyard pools (36%) continue to be the setting where children aged 1–4 most often drown.

Provinces and territories

Drowning occurs in all regions of Canada, but the rate of drowning differs dramatically between provinces and territories. The average water-related fatality rates in Nunavut, the Yukon, and the Northwest Territories continue to be substantially higher than anywhere else in Canada (see data table). After the Territories, the next-highest drowning rates were found in Newfoundland and Labrador, followed by Saskatchewan.

In line with the overall decrease in the Canadian water-related fatality rate, death rates decreased in 10 of the 13 provinces and territories in 2011–15, when compared to 2006–10. Decreases occurred in Prince Edward Island, the Northwest Territories, Newfoundland and Labrador, Nova Scotia, the Yukon, British Columbia, Ontario, New Brunswick, Manitoba, and Quebec.

Increases in the drowning and water-related fatality rates were reported in Saskatchewan, Alberta, and Nunavut.

Urban versus rural location

Less than 20% of the Canadian population lives in a rural area, yet 36% of all drowning fatalities occurred in a rural environment. Consistent with previous years, the areas of Canada with the highest proportion of rural drownings were Nunavut (96%), Saskatchewan (79%), the Northwest Territories (69%), and Manitoba (69%). Nearly half (43%) of those who died in rural areas were not rural residents.

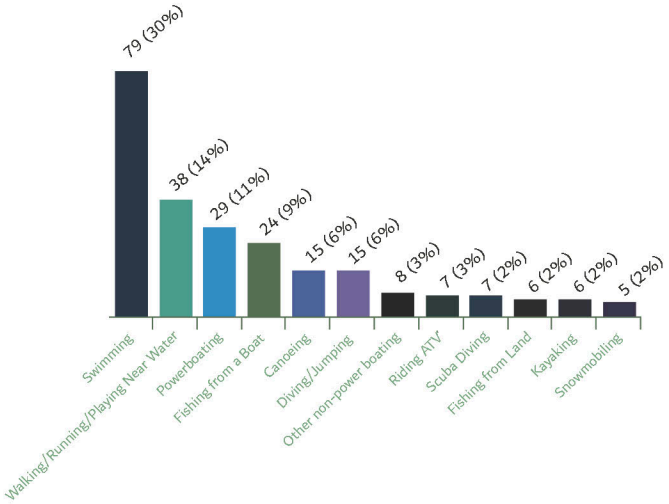
WHAT WERE THEY DOING?

Purpose of activity

Most drowning deaths in Canada continue to occur during recreational activities. Between 2011 and 2015, an average of 266 drowning deaths (59% of total drowning deaths) occurred each year during recreation in, on, or near the water. Consistent with previous years, the most common recreational activities were swimming (30%) and walking, running, or playing near water or on ice (14%), for a total average of 117 deaths annually.

Most Common Primary Recreational Activities

Average Number of Deaths per Year and Percentage of Recreational Drowning Deaths in Canada, 2011–2015



Purpose of Activity

Average Number of Deaths per Year and Percentage of Unintentional Water-Related Deaths in Canada

2006–2010 ~~~ 2011–2015

RECREATIONAL

292 (60%) ~~~ 266 (59%)

DAILY LIVING

125 (26%) ~~~ 127 (28%)

OCCUPATIONAL

27 (6%) ~~~ 20 (4%)

ATTEMPTED RESCUE

9 (2%) ~~~ 8 (2%)

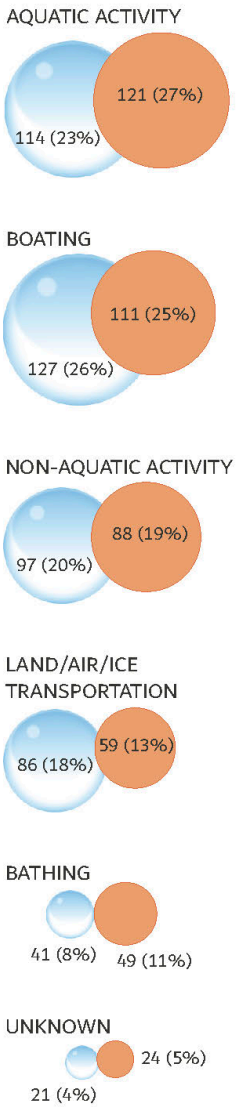
UNKNOWN

34 (7%) ~~~ 32 (7%)

Daily living activities (28%) were the next most common, representing the only type of activity where the number and proportion of drowning fatalities increased over the previous five-year period. Between 2011 and 2015, an average of 127 people drowned annually in Canada while engaged in routine daily activities (up from an average of 125 per year, 26% of all drowning fatalities in 2006–10). The most common daily living activities engaged in prior to drowning were bathing (38%) and motor-vehicle travel (29%), for a combined average of 81 deaths annually. A higher proportion of daily-living-related drowning deaths occurred in Saskatchewan (48%), the Northwest Territories (44%), and Nunavut (38%) than in other provinces and territories.

Together, recreational and daily living activities accounted for most (87%) unintentional water-related fatalities. Fewer drowning incidents involved occupational activities (4%). The highest proportion of

Type of Activity
Average Number of Deaths per Year and Percentage of Unintentional Water-Related Deaths in Canada
2006–2010
2011–2015



occupational drowning deaths occurred in Newfoundland and Labrador (23%), followed by Nova Scotia (15%). Commercial fishing accounted for 74% of these.

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 where drowning deaths occurred. An average of 121 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 2011–15, the number and proportion of aquatic-activity drowning deaths increased (up from an average of 114 per year, 23%, in 2006–10).

The next most common type of activity was boating (25%). An average of 111 people drowned each year while engaging in powered or non-powered boating (down slightly from 127, 26%, in 2006–10).

After boating and aquatic activities, unintended water entry (such as an unexpected fall into water) during a non-aquatic activity accounted for the next greatest proportion of incidents (19%). An average of 88 people drowned each year after falling into water.

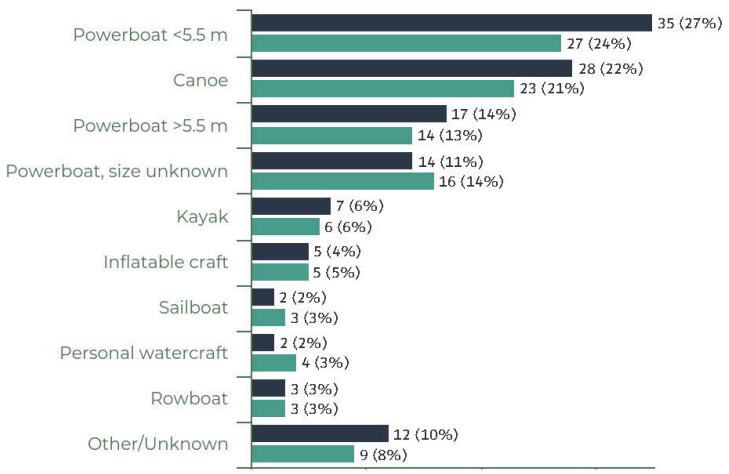
While drowning deaths during bathing are less frequent compared to other activities, the number and proportion of bathing deaths did increase. A yearly average of 49 drowning deaths occurred while the person was bathing (11%), up from 41 (8%) in 2006–10.

Boating

Powerboats or canoes are the craft most often involved in boating-related drowning fatalities. An average of 60 boating-related deaths (54%) occurred during powerboat use each year. Among these, small powerboats less than 5.5 metres long were more commonly involved in drowning fatalities (24%) than large powerboats (13%) or personal watercraft (3%). After powerboats, canoes were the next most common type of vessel involved in boating incidents; each year, an average of 23 people (21%) drowned while canoeing.

In boating-related deaths for which personal flotation device (PFD) information was available, 84% of those who drowned 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 28% had a lifejacket present in the boat but were unable to put it on during the incident. Alcohol consumption was a factor in 36% of boating-related fatalities. The most common types of boating incidents that led to drowning were capsizing (40%) and falling or being thrown overboard (30%).

Boating Incidents by Type of Vessel
Average Number of Deaths per Year and Percentage of Boating Deaths in Canada
2006–2010 2011–2015



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 (84%, where information available)
- Cold water (64%, where information available)
- Consuming alcohol (36%)
- Capsizing (40%)
- Boating alone (30%)
- Falling or being thrown overboard (30%)
- Boating in darkness or twilight (23%)
- Boating in rough water (21%)

Swimming

- Weak or non-swimmer (40%, where information available)
- Consuming alcohol (34%)
- Swimming alone (29%)
- Heart disease/sudden cardiac event while swimming (20%)

0–4

- Alone near water (64%)
- Supervision absent (67%)
- Supervision present but distracted (31%)
- With other minors only (21%)

5–14

- Not wearing a PFD when recommended (67%, where information available)
- Alone or with other minors only (55%)

15–19

- Not wearing a PFD when recommended (97%, where information available)
- Consuming alcohol (34%)
- Alone (29%)
- Being in, on, or near the water after dark (22%)

20–34

- Not wearing a PFD when recommended (87%, where information available)
- Consuming alcohol (48%)
- Alone (32%)
- Being in, on, or near the water after dark (23%)

35–64

- Not wearing a PFD when recommended (80%, where information available)
- Alone (54%)
- Consuming alcohol (44%)

65+

- Not wearing a PFD when recommended (81%, where information available)
- Alone (72%)
- Consuming alcohol (20%)

Research methodology

Complete data from 1990–2015

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

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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 a 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.

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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.