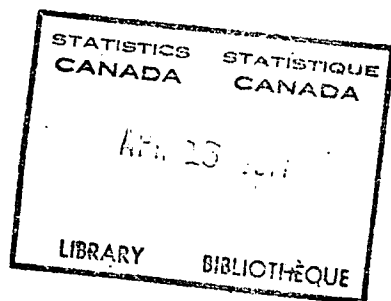


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# ACCIDENTAL DROWNING

1956

Reference Paper  
No. 82

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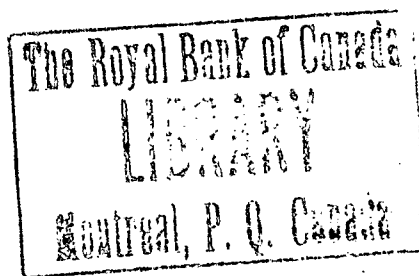
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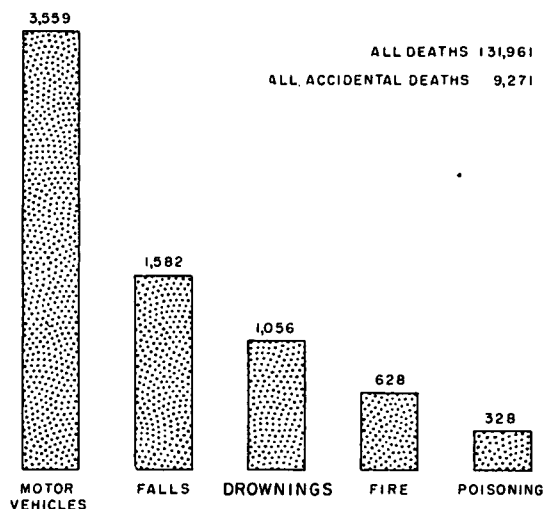
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# ACCIDENTAL DROWNING

## 1956

In the past ten years drowning fatalities in Canada averaged more than 1,000 each year. Of all forms of accidental death, drowning ranks third, surpassed only by motor vehicle accidents and falls. In 1956 drownings claimed 1,056 lives; over the past quarter century drownings have ranged from a record high of nearly 1,300 in 1955 to approximately 800 in 1940 with a range in rates from less than 7 to over 10 per 100,000 population. The 1956 drowning rate of 6.5 per 100,000 population was made up of a male rate of 11.4 contrasted with a female rate of only 1.6.

DROWNINGS RANK THIRD AMONG ACCIDENTAL DEATHS  
1956



### Age and Sex of Victims

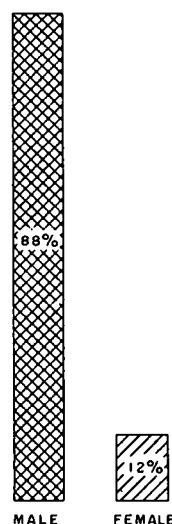
As might be expected, death by drowning strikes most heavily at males and of the 1,056 drowning fatalities in 1956, males accounted for 927 or nearly 88 per cent; moreover of total male drownings 44 per cent were under twenty years of age and a further 33 per cent were between twenty and forty. Among young people of school age, from five to twenty-four years, accidents claimed far more deaths than all kinds of diseases combined. In these ages motor-vehicle accidents ranked as the leading cause of death followed by drownings in second place and cancer a poor third. Taking the normal life expectation of these young drowning victims as 70 years, their deaths represented a combined loss of nearly 45,000 years of expected life compared with a loss through cancer of less than 25,000 years for the 5-24 age group. The male-female sex ratio of drowning victims in these ages was less than seven to one compared with over thirteen to one for ages over 24.

Drownings by Age and Sex, 1956\*

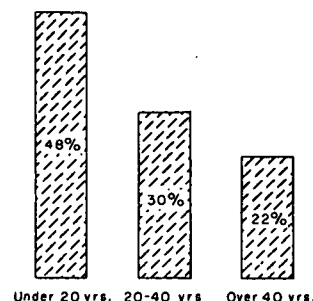
Age Group	Total	Male	Female
Under 5 .....	153	113	40
5-14 .....	219	176	43
15-19 .....	124	118	6
20-49 .....	406	382	24
50 and over .....	154	138	16
All Ages .....	1,056	927	129

\* Includes the Yukon and Northwest Territories.

MALE VICTIMS  
OUTNUMBER FEMALE  
1956



DROWNINGS HEAVIEST IN YOUTH  
1956

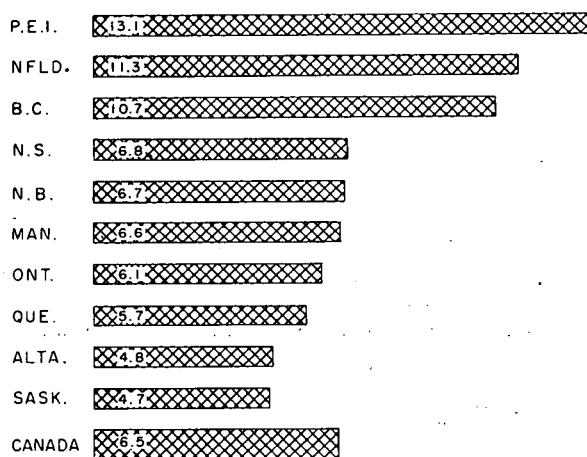


### Regional Variations

Canada's drowning record, at 6.5 per 100,000 population is substantially higher than that of either the United States or England. There are wide variations in international rates but figures are available only for non-transport drowning accidents. In this category Canada's rate at 4.9 per 100,000 population stands between such rates as 3.4 for the United States, 2.2 for England and 3.2 for Germany on the one hand and rates of 9.6 for Japan, 7.5 for Ceylon and 6.5 for France on the other.

Within Canada there were wide variations in provincial drowning death rates. The highest rates were recorded in provinces bordering on the sea, with Prince Edward Island having the highest rate at 13.1 followed by Newfoundland at 11.3 and British Columbia at 10.7. In contrast, Saskatchewan and Alberta had rates as low as 4.7 and 4.8 respectively. At the end of this report will be found a table summarizing the rates for each province from 1931 to 1956.

# INLAND PROVINCES HAVE LOWEST DROWNING RATES 1956



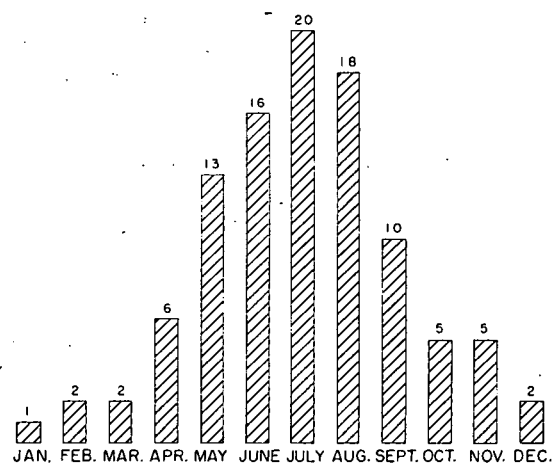
\* DROWNINGS PER 100,000 POPULATION

## Seasonal Fluctuation

While drownings occur every month of the year in Canada they appear to be concentrated most heavily in the months when recreational activities and annual vacations bring more people into ex-

posure to the risk of drowning. Thus over half of the total drownings are compressed into the three months of June, July and August. The smallest number occur in January, after which there is a slow rise to April followed by a sharp jump to the July peak.

## DROWNINGS - HIGHEST IN SUMMER MONTHS\* 1956



\*PERCENTAGE OF DROWNINGS BY MONTHS.

## Circumstances of Drownings\*

Circumstances of drownings varied according to the age of victims but the most outstanding generality noted was the fact that three-quarters of the fatalities were due to unexpected submersion, particularly through boating mishaps and falls, while only one-fifth occurred as a result of voluntary submersion while indulging in such activities as swimming, wading and diving.

Among the particular circumstances of accidental drownings, small-boat accidents caused the largest proportion of fatalities, amounting to 31 per cent of all victims. This proportion varied widely by age groups ranging from only 2 per cent of drown-

ings in the pre-school age group to 50 per cent in the age group from twenty to fifty. The second greatest factor in drownings involved falls into lakes and rivers and this hazard caused 25 per cent of all drownings and 45 per cent of drownings in the age group under five years. Accidents while swimming, wading, diving, etc. were responsible for 20 per cent of all drownings and 47 per cent of drownings in the age group from fifteen to nineteen.

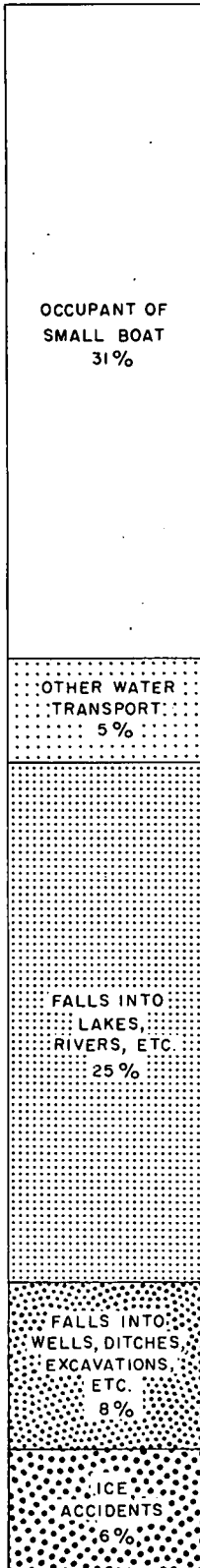
\*Not all of the 1,056 death registrations for drownings in 1956 contained sufficient detail for analysis of the circumstances and factors involved. In this section the presentation is accordingly based on the 757 registrations, amounting to just over 70 per cent of the total, which did contain further information.

## Proportionate Significance of Drowning Fatalities by Circumstance

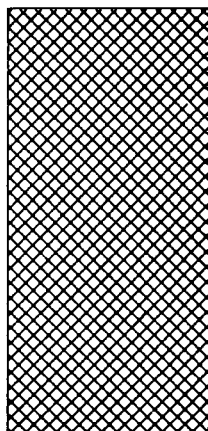
Specified Circumstance	All Ages %	0-4 %	5-14 %	15-19 %	20-49 %	50 and over %
Occupant of small boat.....	31	2	11	32	50	33
Other water transport accident .....	5	—	—	6	8	7
Falling into lakes, rivers, etc. ....	25	45	29	11	16	35
Falling into wells, ditches, excavations, etc. ....	8	31	10	3	2	9
Swimming, wading, diving, etc.....	20	2	32	47	17	5
Ice accidents .....	6	10	14	1	3	5
Drownings at home .....	3	10	4	—	—	3
Non-boating occupational accidents .....	2	—	—	—	4	3
<b>Total specified circumstances .....</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

# SPECIFIED CIRCUMSTANCES OF ACCIDENTAL DROWNINGS, 1956

UNEXPECTED SUBMERSION 75%



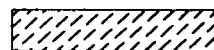
SWIMMING, WADING,  
DIVING, ETC. 20%



HOME DROWNINGS 3%



NON-BOATING OCCUPA-  
TIONAL ACCIDENTS 2%



### Sex and Age Differentials

The outstanding characteristic of drowning fatalities was the predominance of the male sex. For each type of specified circumstance, with the exception of home accidents, the victim, in about 90 per cent of cases, was male. Of the total drownings studied, females comprised only ten per cent and two-thirds of these were girls under 15 years of age.

The circumstances of drowning accidents reflected the changing impact of particular hazards from infancy to old age. In the pre-school age group, in which girls accounted for about one-fifth of drownings, most water fatalities resulted from youngsters falling into lakes and rivers or into wells, ditches and excavations. Among the youngest children, a considerable proportion of the deaths took place around the home - in the bath, in wells, garden pools, etc. Very few drownings in this age group were caused by swimming or boating accidents.

The impact of swimming accidents grew suddenly at the school ages and in the group from 5-14 years accounted for nearly a third of drownings. Falls into lakes and rivers claimed the next largest group of victims and ice accidents were a particular hazard for this group. Males accounted for four deaths out of five. In the age group 15-19 males accounted for over 95 per cent of drowning fatalities and three-quarters of all drownings were the result of swimming or boating accidents.

In the years from 20-49 males accounted for 94 per cent of total drownings, half of which were due to accidents in small boats while swimming and falling into water were two other significant factors. For the age groups beyond 50 years males predominated by more than ten to one and while falls played the leading role in causing 35 per cent of deaths, accidents in small boats were almost as frequent and resulted in a third of drowning fatalities.

### Specified Circumstances

#### Occupant of Small Boat (31% of drownings)

Age Distribution	%
Under 5 .....	1
5-14 .....	8
15-19 .....	12
20-29 .....	31
30-49 .....	32
50 and over .....	16
All ages .....	100

For purposes of classification a small boat is defined as any watercraft propelled by paddles, oars or small motor with a passenger capacity of less than 10. This title excludes accidents involving life boats and similar watercrafts used after abandoning ship. Submersion of occupants of small boats was the leading circumstance involved in accidental drownings, claiming 31 per cent of the victims. Fishing (both sport and commercial) played a major role in these fatalities and a large number of drownings were reported from row boats, small outboards, canoes and dinghies. This hazard was of particular danger to adults in the prime of life from twenty to fifty years in which age groups were found 63 per cent of the total fatalities - and of these adults, no less than 94 per cent were men.

#### Other Water Transport Accident (5% of drownings)

Age Distribution	%
Under 5 .....	-
5-14 .....	-
15-19 .....	14
20-29 .....	31
30-49 .....	33
50 and over .....	22
All ages .....	100

Other water transport injury by submersion, which included drowning due to any accident on watercraft except a small boat, accounted for only 5 per cent of the specified drownings. In the great majority of cases these were due to falls of one kind or another while the submersion of boats was the next most significant factor. The particular danger to adults between twenty and fifty was again noted and the proportion of male victims exceeded 90 per cent.

#### Falling into Lakes, Rivers, etc. (25% of drownings)

Age Distribution	%
Under 5 .....	23
5-14 .....	25
15-19 .....	5
20-29 .....	11
30-49 .....	14
50 and over .....	22
All ages .....	100

Exclusive of transport accidents, falls into large bodies of water such as lakes and rivers, accounted for a quarter of the specified drownings. Nearly one-quarter of the victims were under five years of age and another quarter were between five and fourteen. There was particular danger also for the age group of fifty and over. While in the case of children under fifteen years of age boys constituted 80 per cent of fatalities, in the age group of fifty and over more than 97 per cent of the deaths were of males.

### Falling into Wells, Ditches, Excavations, etc. (8% of drownings)

Age Distribution	%
Under 5 .....	46
5-14 .....	24
15-19 .....	5
20-29 .....	5
30-49 .....	3
50 and over .....	17
All ages .....	100

The significance of falls into small bodies of water such as wells, ditches and excavations was only one-third as great as falls into large bodies of water. The particular danger for children under fifteen must be stressed as these age groups claimed 70 per cent of the victims. Over three-quarters of victims under 15 were boys.

### Swimming, Wading, Diving, etc. (20% of drownings)

Age Distribution	%
Under 5 .....	1
5-14 .....	34
15-19 .....	27
20-29 .....	19
30-49 .....	15
50 and over .....	4
All ages .....	100

One drowning in five was the result of voluntary submersion while swimming, wading and diving. Moreover over 60 per cent of the deaths from this cause involved people between five and twenty. In the age group from five to fourteen males accounted for nearly three-quarters of the fatalities while they were victims of all drownings between fifteen and twenty.

### Ice Accidents (6% of drownings)

Age Distribution	%
Under 5 .....	21
5-14 .....	46
15-19 .....	2
20-29 .....	4
30-49 .....	15
50 and over .....	12
All ages .....	100

Ice accidents were responsible for 6 per cent of the circumstances of accidental drownings. More than two-thirds of these deaths were of children under fifteen years of age of which males accounted for over 90 per cent of the total fatalities.

### Drownings at Home (3% of drownings)

Age Distribution	%
Under 5 .....	50
5-14 .....	35
15-19 .....	—
20-29 .....	—
30-49 .....	—
50 and over .....	15
All ages .....	100

While only 3 per cent of drownings studied occurred at home this was a serious problem at the two extremes of life. Children under five accounted for half the deaths, children from five to fourteen were responsible for 35 per cent and adults of fifty and over for 15 per cent. Among old people at home drownings were a particular hazard for females.

### Non-Boating Occupational Accidents (2% of drownings)

Age Distribution	%
Under 5 .....	—
5-14 .....	—
15-19 .....	—
20-29 .....	25
30-49 .....	50
50 and over .....	25
All ages .....	100

A further 2 per cent of drownings analyzed were the result of non-boating occupational accidents. This was a problem in which only male adults were involved but three quarters of them were in the age groups under fifty.

## Conclusion

Drownings are a particular hazard for Canadians, ranking third among accidental deaths. More than four-fifths of the victims are male and life years lost through drownings are particularly high as such a large proportion of fatalities occur in youthful age groups. Drowning rates are highest in provinces bordering on the sea and more than half the total lives are lost in the three months of June, July and August. The circumstances of drownings that were analyzed indicated that 75 per cent came about through unexpected submersion, while swimming, wading, diving, etc. accounted for 20 per cent. The present survey reiterates the significance of the standard water safety rules being urged by health authorities.

1. If your boat capsizes, stay with it.
2. Never stand or change positions in boats.
3. Do not overload boats.
4. Be wary of river currents.
5. Do not swim from boats in deep water.
6. Never swim alone.
7. Wait an hour after meals before swimming.
8. Avoid swimming if tired or overheated.
9. Swim close to shore.
10. If muscle cramps occur, leave water at once.
11. Select a safe swimming place, preferably supervised by lifeguards.
12. Know how to rescue a person from drowning and how to apply artificial respiration.

Deaths from Drownings, Canada (Excluding Yukon and Northwest Territories) by Provinces, 1931-1956\*

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	Number										
1931.....	1,094	Not available	3	56	37	378	361	35	62	63	99
2.....	985		9	61	41	294	344	47	45	49	95
3.....	998		12	64	48	299	297	65	58	47	108
4.....	846		6	73	35	247	258	37	41	50	99
1935.....	879		7	60	43	274	258	59	37	37	104
6.....	786		4	47	30	236	221	38	46	66	98
7.....	886		10	51	34	296	279	33	32	49	102
8.....	879		3	63	46	306	263	36	30	38	94
9.....	858		4	40	47	292	254	38	44	50	89
1940.....	797		4	52	17	249	255	38	30	57	95
1.....	924		6	72	28	262	298	44	39	60	115
2.....	924		7	55	44	271	315	32	33	54	113
3.....	958		2	86	44	292	293	46	36	52	107
4.....	942		5	55	50	284	313	52	44	55	84
1945.....	846		4	38	34	261	272	55	35	45	102
6.....	876		6	56	34	238	278	56	54	42	112
7.....	1,065		15	67	45	357	309	51	54	35	132
8.....	961		9	56	40	292	283	49	38	72	122
9.....	1,096	33	5	62	40	330	319	60	52	53	142
1950.....	953	43	3	61	27	269	274	47	36	43	150
1.....	1,049	47	1	49	33	314	346	37	32	48	142
2.....	1,194	32	2	56	37	384	351	59	35	71	167
3.....	1,202	43	9	67	31	380	369	51	46	53	153
4.....	1,107	36	4	53	52	331	326	68	45	58	134
5.....	1,278	46	6	64	42	397	412	60	54	65	132
6.....	1,039	47	13	47	37	266	329	56	41	54	149

\* Due to revisions in classification figures from 1931-1949 are not strictly comparable with later data.



Deaths from Drownings, Canada (Excluding Yukon and Northwest Territories) by Provinces, 1931-1956\*  
Concluded

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Rates per 100,000 population											
1931.....	10.6	Not available	3.4	10.9	9.1	13.2	10.5	5.0	6.7	8.6	14.3
2.....	9.4		10.1	11.8	9.9	10.1	9.9	6.7	4.9	6.6	13.4
3.....	9.4		13.3	12.2	11.5	10.1	8.5	9.2	6.3	6.3	15.1
4.....	7.9		6.6	13.7	8.3	8.2	7.3	5.2	4.4	6.6	13.6
1935.....	8.1		7.6	11.2	10.0	9.0	7.2	8.3	4.0	4.8	14.1
6.....	7.2		4.3	8.7	6.9	7.6	6.1	5.3	4.9	8.5	13.2
7.....	8.0		10.8	9.3	7.8	9.4	7.7	4.6	3.5	6.3	13.4
8.....	7.9		3.2	11.4	10.4	9.6	7.2	5.0	3.3	4.9	12.1
9.....	7.6		4.3	7.1	10.5	9.0	6.9	5.2	4.9	6.4	11.2
1940.....	7.0		4.2	9.1	3.8	7.6	6.8	5.2	3.3	7.2	11.8
1.....	8.0		6.3	12.5	6.1	7.9	7.9	6.0	4.4	7.5	14.1
2.....	7.9		7.8	9.3	9.5	8.0	8.1	4.4	3.9	7.0	13.0
3.....	8.1		2.2	14.2	9.5	8.4	7.5	6.4	4.3	6.6	11.9
4.....	7.9		5.5	9.0	10.8	8.1	7.9	7.2	5.3	6.8	9.0
1945.....	7.0	9.6	4.3	6.1	7.3	7.3	6.8	7.6	4.2	5.6	10.7
6.....	7.1		6.4	9.2	7.1	6.6	6.8	7.7	6.5	5.2	11.2
7.....	8.5		16.0	10.9	9.2	9.6	7.4	6.9	6.5	4.2	12.6
8.....	7.5		9.7	9.0	8.0	7.7	6.6	6.6	4.5	8.4	11.3
9.....	8.2		5.3	9.9	7.9	8.5	7.3	7.9	6.3	6.0	12.8
1950.....	7.0	12.3	3.1	9.6	5.3	6.8	6.1	6.1	4.3	4.7	13.2
1.....	7.5	13.0	1.0	7.6	6.4	7.7	7.5	4.8	3.8	5.1	12.2
2.....	8.3	8.6	2.0	8.6	7.0	9.2	7.3	7.4	4.2	7.3	13.9
3.....	8.1	11.2	8.9	10.1	5.8	8.9	7.5	6.3	5.3	5.2	12.3
4.....	7.3	9.1	4.0	7.9	9.6	7.5	6.4	8.3	5.2	5.5	10.3
5.....	8.2	11.3	6.0	9.4	7.7	8.8	7.8	7.2	6.2	6.0	9.8
6.....	6.5	11.3	13.1	6.8	6.7	5.7	6.1	6.6	4.7	4.8	10.7

\* Due to revisions in classification figures from 1931-1949 are not strictly comparable with later data.







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