

Water Safety New Zealand  
Drowning Prevention Report

# 2016



# 2016 Overview

Drowning is the respiratory impairment of lungs due to submersion/immersion in liquid. It can be fatal (mortality), or non-fatal (morbidity).\* In this report non-fatal drownings are those resulting in a stay in hospital of 24 hours or longer and are classified as hospitalisations.

Drowning is the fourth highest cause of accidental death in New Zealand - after motor vehicle accidents, falls and poisoning.\*\*

This report provides a summary of the preventable drownings (fatalities and hospitalisations) in 2016. It breaks down the numbers by age, ethnicities, regions, activities and environments.

In 2016 there were 78 recreational (intending to be in the water) and non-recreational (no intention of being in the water) preventable drowning fatalities. The following analysis of fatalities is based on these 78 incidents in 2016 which represent a decrease of 6, or 7%, compared to 2015.

The remaining 29 fatalities are classified as 'other or non-preventable drownings' (arising as a result of road or air accidents, homicide, suicide or of unknown origin) and are not considered applicable to the prevention and rescue efforts of the water safety sector. Details about these fatalities are not included in this report other than in the tables at the rear of the report.

Non-fatal drownings resulting in a stay in hospital of 24 hours or longer were 207 in 2016. This is a 9.5% increase on 2015 and 16% increase on the five year average (2011-2015). Throughout this report these are referred to as 'hospitalisations'.

More detailed information is available on request or available at [www.watersafety.org.nz](http://www.watersafety.org.nz).

Data sourced from Water Safety New Zealand's DrownBase™

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Photograph: Peter Ambrose

Kia ora,

Recreation in, on or around the water is a natural and popular past time for millions of New Zealanders. As an island nation, our beaches, rivers and lakes are some of the most magnificent in the world. A moderate climate, accessible waterways and public and residential pools provide ample opportunities for Kiwis and tourists alike to swim, play, participate in water sports and activities and go boating and fishing year round. This is part of the quintessential Kiwi lifestyle.

With any water comes risk and sadly every year far too many people lose their lives or are injured in, on or around the water. The tragedy is that most drownings and injuries are preventable.

Of the 107 people who died by drowning in New Zealand in 2016 (both recreationally and non-recreationally), 78 were preventable.

While preventable drownings are down six on 2015, and down three when comparing the past five year average of 81, hospitalisations are increasing. From 189 in 2015, there were 207 hospitalisations in 2016. The highest since records began in 2003.

Males are four times more likely to drown in New Zealand and people across all age groups have lost their life in the water including three children under five years. Immersion incidents, where the victims had no intention of being in the water, remains the largest cause of drowning followed by those who simply went for a swim which ended in tragedy.

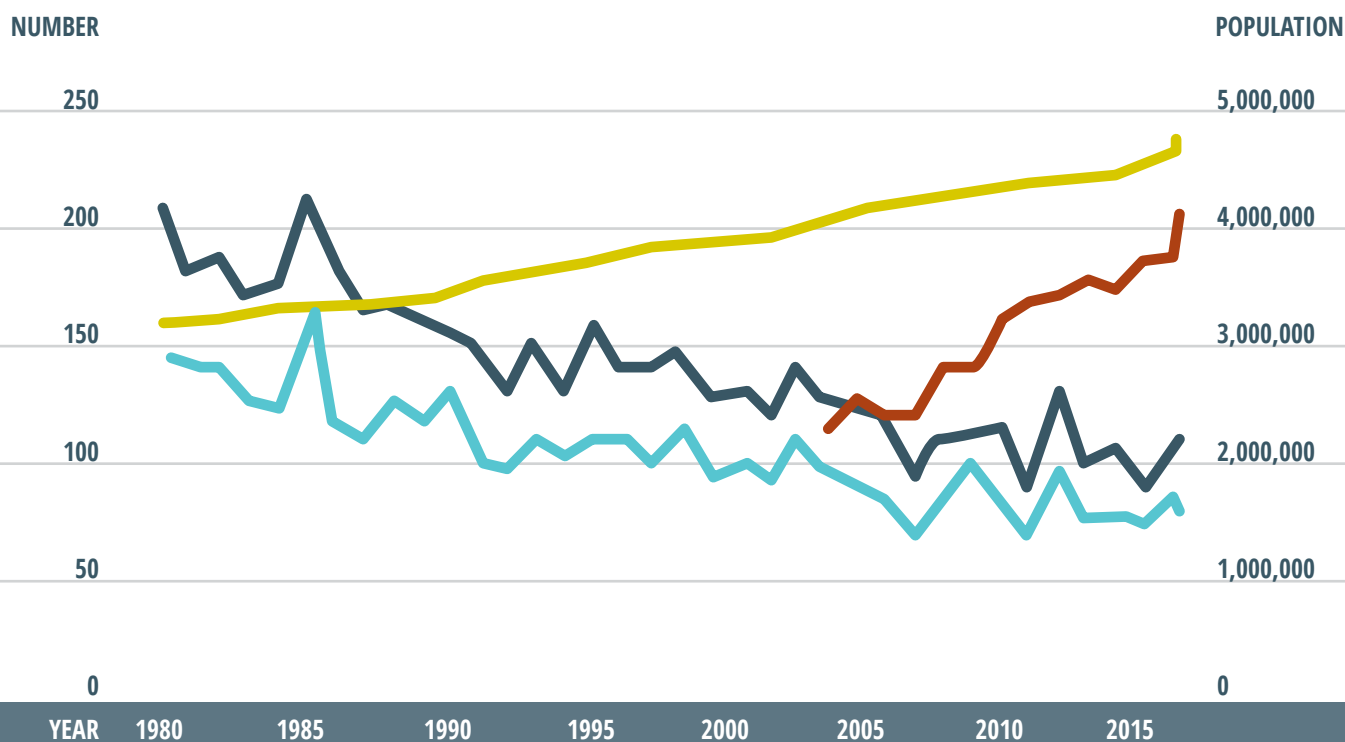
The water safety sector is united in its commitment to the drowning prevention targets as detailed in the 2020 Water Safety Sector Strategy. They are ambitious targets however. All New Zealanders must play their part. Generally speaking, an under estimation of the risks and an over estimation of ability to manage those risks is a key contributor to drowning. This has to change. By taking a more realistic and responsible approach, and learning aquatic survival skills, Kiwis can safely enjoy our wonderful waterways and go home at the end of the day to talk about their experiences.

A handwritten signature in blue ink, appearing to read 'Jonty Mills'. The signature is fluid and cursive, with a long horizontal stroke at the end.

**Jonty Mills** CEO Water Safety New Zealand

# 1980 - 2016 View

## Drowning Fatalities 1980-2016 and Hospitalisations 2003-2016



### Progress towards New Zealand Water Safety Strategy 2020 Goals

	2011 – 2015 FIVE YEAR AVE	2016	2020 GOALS
Preventable Fatalities	81	78	50
Male Fatalities	67	67	33
Under Fives Fatalities	6	3	0
Hospitalisations	178	207	100



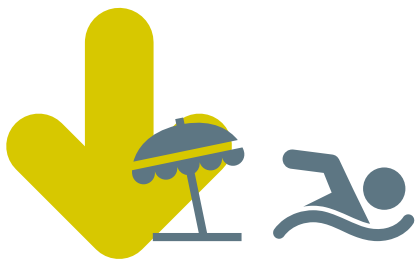
# Key Findings



**3** under fives fatalities.



Male fatalities involved 16 different activities.



Beach hospitalisations have decreased from 38 in 2015 to 24 this year: a decrease of 37%. This is closer to the 2011-2015 five year average of 26. Half of beach hospitalisations were from swimming incidents.



**Under Fives** hospitalisations have more than doubled in 2016 (42) from 2015 (20) and are 10 more than the 2011-2015 five year average.



**25** hospitalisations occurred for 65+ year olds, up 10 or 67% over 2015 and 47% on the five year average. Most common activity was swimming (40%) and boating (24%).



Notable increase in hospitalisations are in the 'other domestic' category. 12 in 2015, 27 in 2016: an increase of 136% on 2015 and 35% on the five year average (2011-2015). 70% of these were aged 0 - 4 years, which is a similar rate in the past five years. Over half were Māori, which is double the five year average (2011-2015).



# 1. Regions

## Fatalities and Hospitalisations by Region

	HOSPITALISATIONS	FATALITIES
Northland	13	17
Waikato	21	16
Auckland	69	11
Bay of Plenty	21	7
Hawke's Bay	5	6
Taranaki	5	4
Southland	2	4
Manawatu / Whanganui	15	3
West Coast	7	3
Otago	5	2
Tasman	0	2
Wellington	18	1
Canterbury	8	1
Marlborough	1	1
Gisborne	0	0
Unknown	17	

TOTAL 207 78



TOTAL

HOSPITALISATIONS

207

FATALITIES

78

### FATALITIES

**Northland** has the highest fatality rate in the country. In 2015, it had the second highest fatality rate behind Waikato. Northland's 2016 total drowning toll was almost twice its five year average (2011 – 2015), and the highest since 1995.

**Auckland's** toll has been static for the past four years.

**Waikato** was up 45% on the five year average (2011-2015). Its toll was the highest since 2007.

**Gisborne** was the only region with zero drowning fatalities.

**Wellington** was down 50% on its five year average (2011-2015) and down 90% on the 2015 toll.

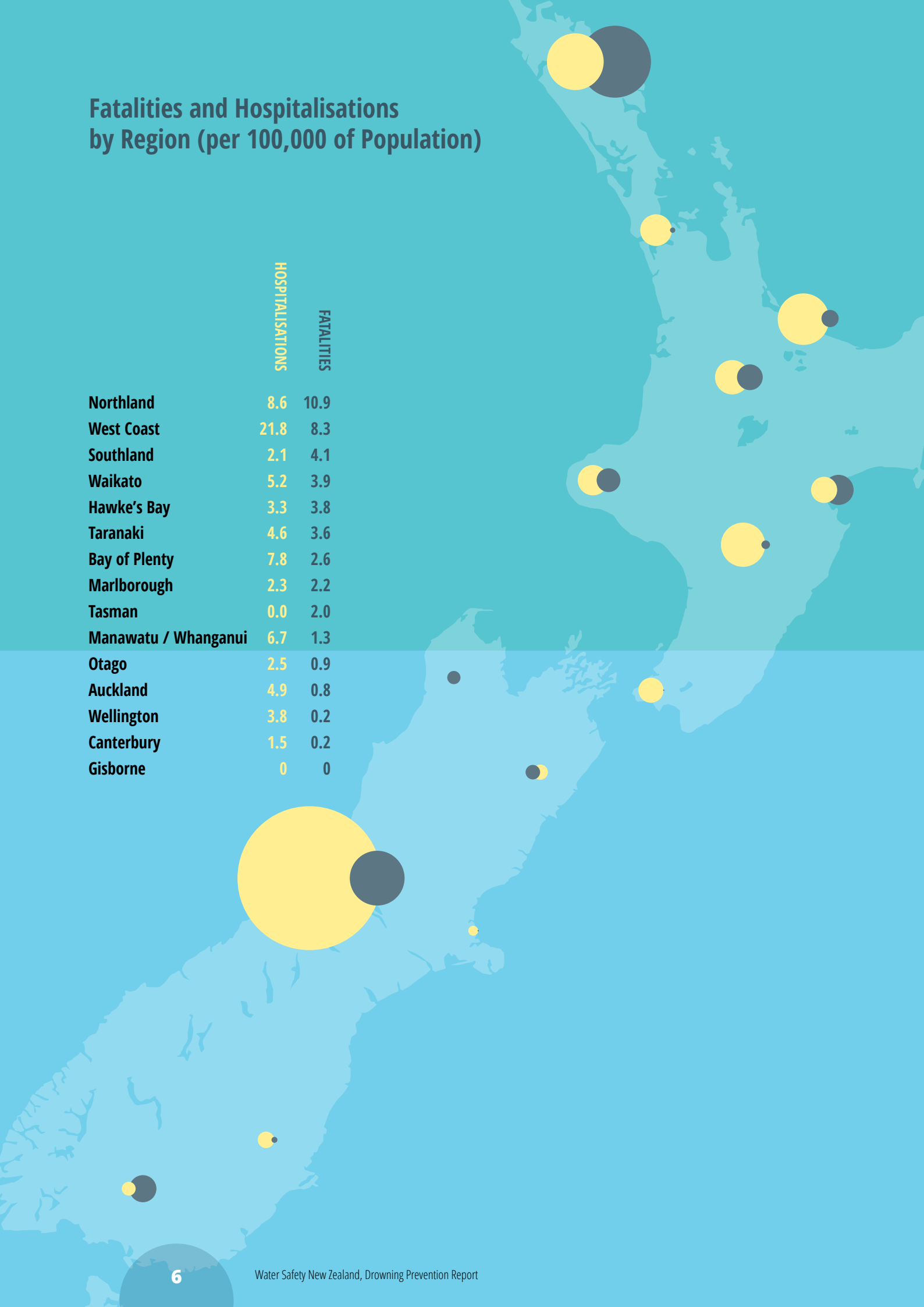
**Canterbury** was down 66% on its five year average (2011-2015) and 91% on the 2015 toll.

### HOSPITALISATIONS

Overall hospitalisation (207) are up compared to 2015 with 189, and over the 2011-2015 average (178).

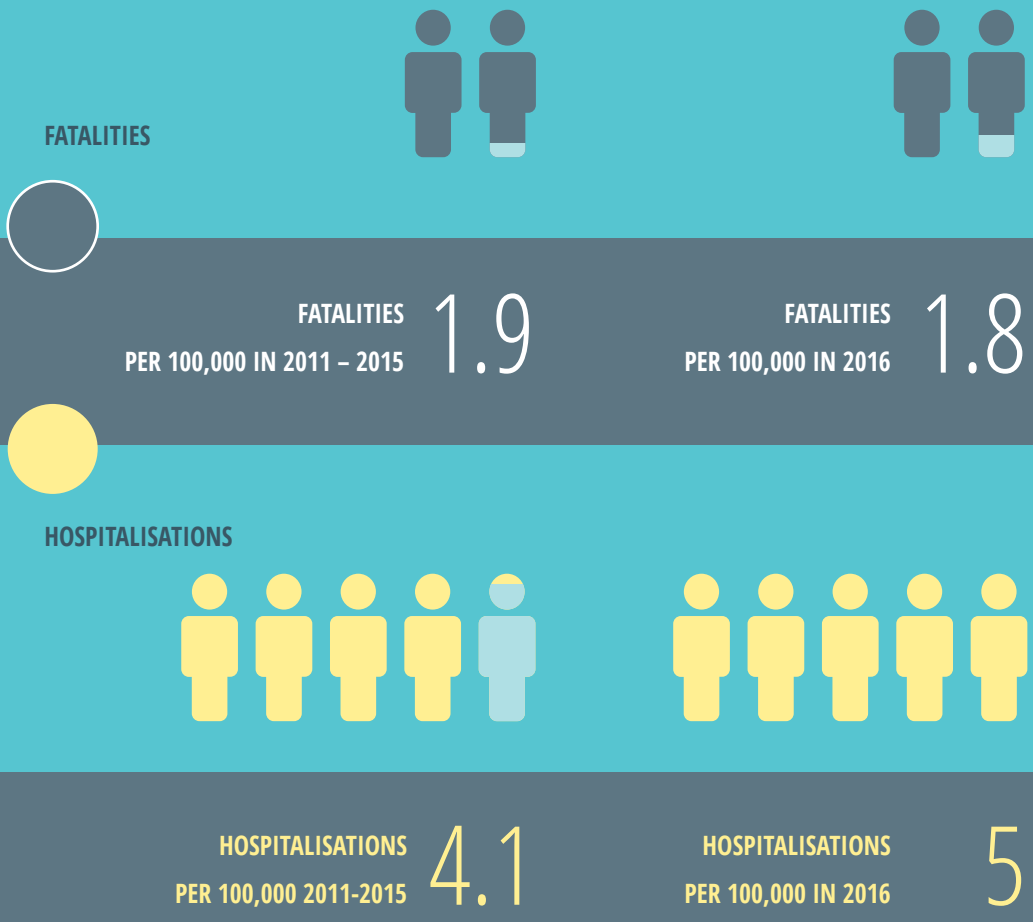
# Fatalities and Hospitalisations by Region (per 100,000 of Population)

	HOSPITALISATIONS	FATALITIES
Northland	8.6	10.9
West Coast	21.8	8.3
Southland	2.1	4.1
Waikato	5.2	3.9
Hawke's Bay	3.3	3.8
Taranaki	4.6	3.6
Bay of Plenty	7.8	2.6
Marlborough	2.3	2.2
Tasman	0.0	2.0
Manawatu / Whanganui	6.7	1.3
Otago	2.5	0.9
Auckland	4.9	0.8
Wellington	3.8	0.2
Canterbury	1.5	0.2
Gisborne	0	0





# National Averages



## FATALITIES

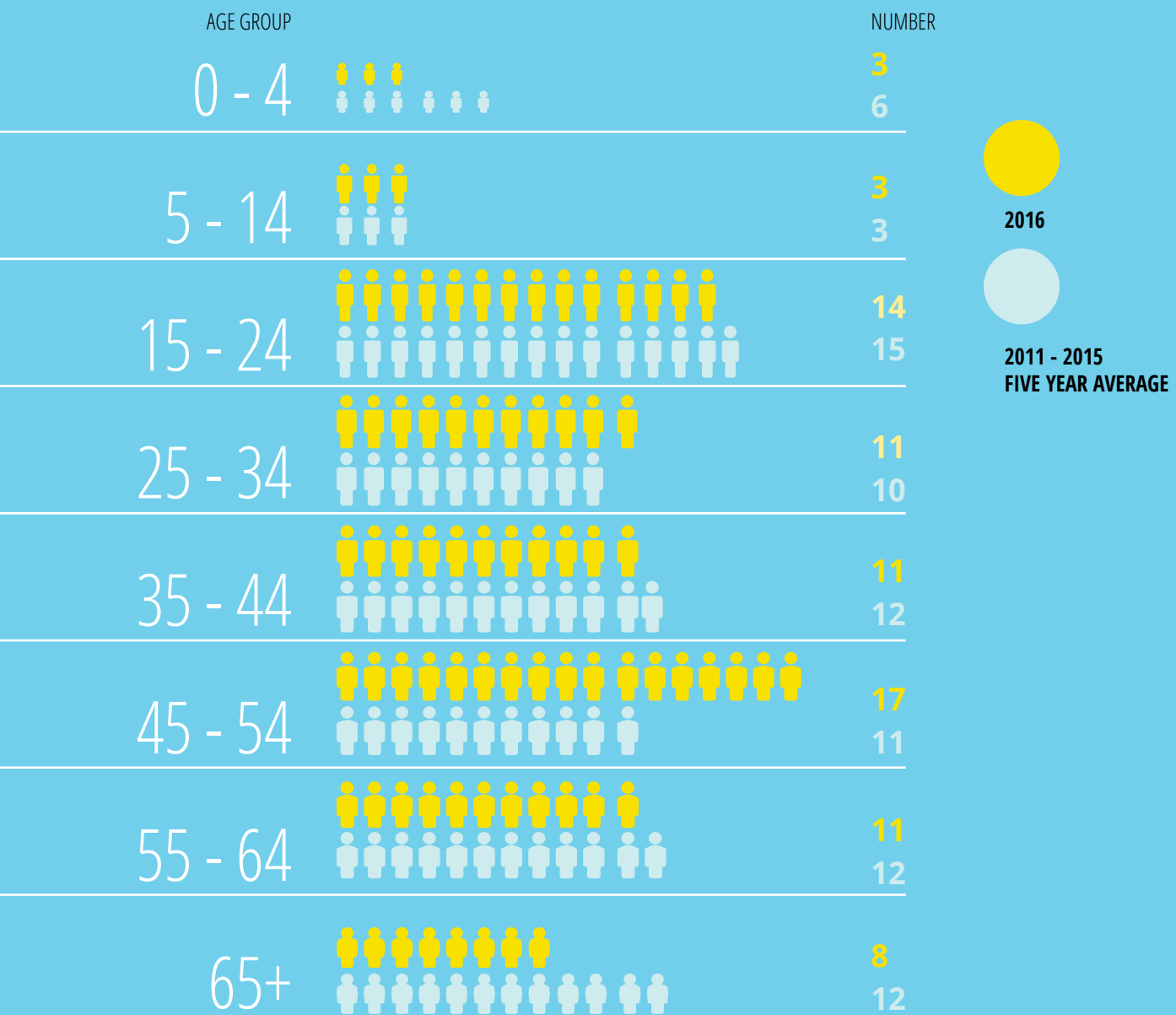
**Northland** has the highest drowning rate in the country per 100,000 of population followed by the West Coast. Northland has a five year average (2011-2015) preventable drowning rate of 6.2 which is the second highest in the country after the West Coast.

## HOSPITALISATIONS

**West Coast, Northland and Bay of Plenty**, in that order, are highest in relative hospitalisation rates.

## 2. Age

### Fatalities by Age - Five Year Ave vs 2016



**3** under fives fatalities.



**93%** of fatalities in the 15 - 25 year old age group were male.



**55%** increase on the five year average in the 45 - 54 year old age group - the highest since 2009.

# Fatalities and Hospitalisations by Age



2016  
FATALITIES

2016  
HOSPITALISATIONS

NUMBER

AGE GROUP

0 - 4



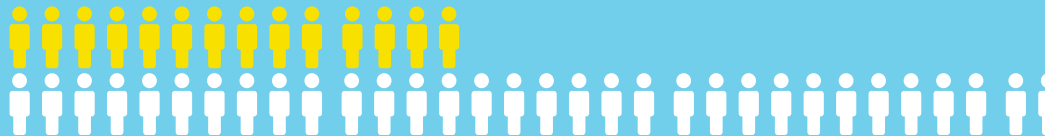
3  
42

5 - 14



3  
20

15 - 24



14  
32

25 - 34



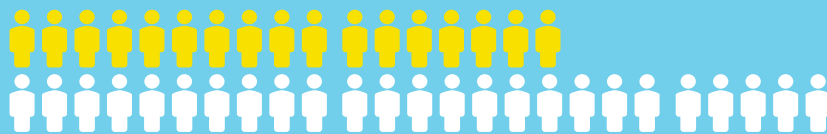
11  
29

35 - 44



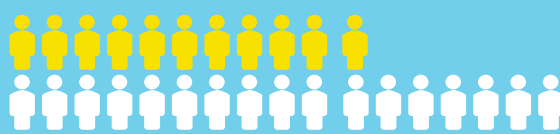
11  
17

45 - 54



17  
25

55 - 64



11  
17

65+



8  
25





## Fatalities by Age over time

NUMBER

20  
15  
10  
5  
0

AGE

0 - 4

5 - 14

15 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65+



2011-2015  
FIVE YEAR AVERAGE



2015



2016

## Hospitalisations by Age over time

NUMBER

45  
40  
35  
30  
25  
20  
15  
10  
5  
0

AGE 0 - 4 5 - 14 15 - 24 25 - 34 35 - 44 45 - 54 55 - 64 65+

2011-2015 FIVE YEAR AVERAGE

2015

2016



**Under Fives** hospitalisations have more than doubled in 2016 (42) from 2015 (20) and are 10 more than the 2011-2015 five year average.



**20** hospitalisations occurred for 5-14 year olds in 2016, down nine or 31% since 2015. 60% occurred in swimming incidents.



**32** hospitalisations of 15 - 24 year olds (six down on 2015) and half of these occurred in Auckland.

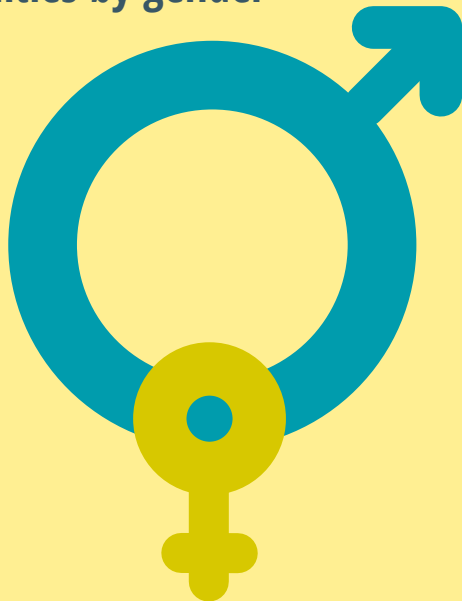


**25** hospitalisations occurred for 65+ year olds, up 10 or 67% over 2015 and 47% on the five year average. Most common activity was swimming (40%) and boating (24%).



# 3. Gender

Fatalities by gender

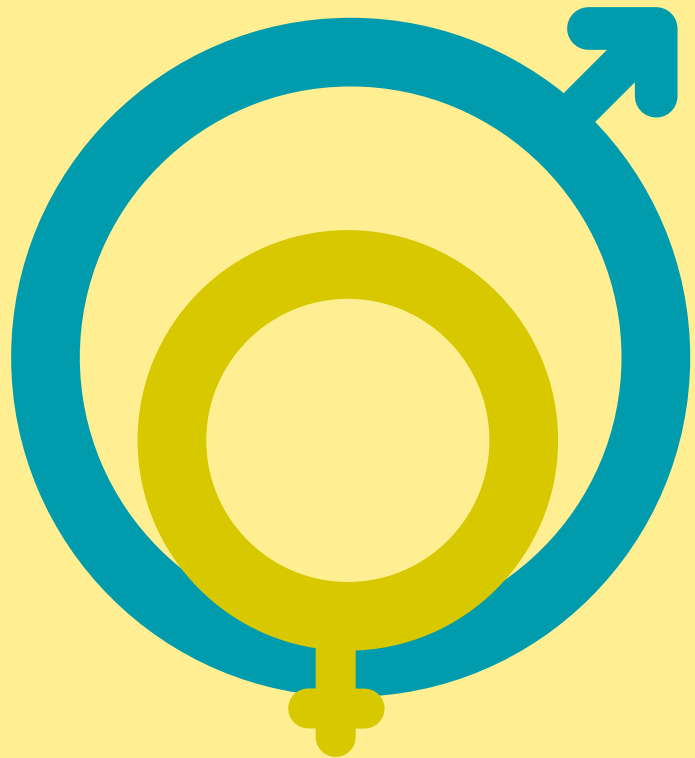


FEMALE



MALE

Hospitalisations by gender



TOTAL

FATALITIES

67 11

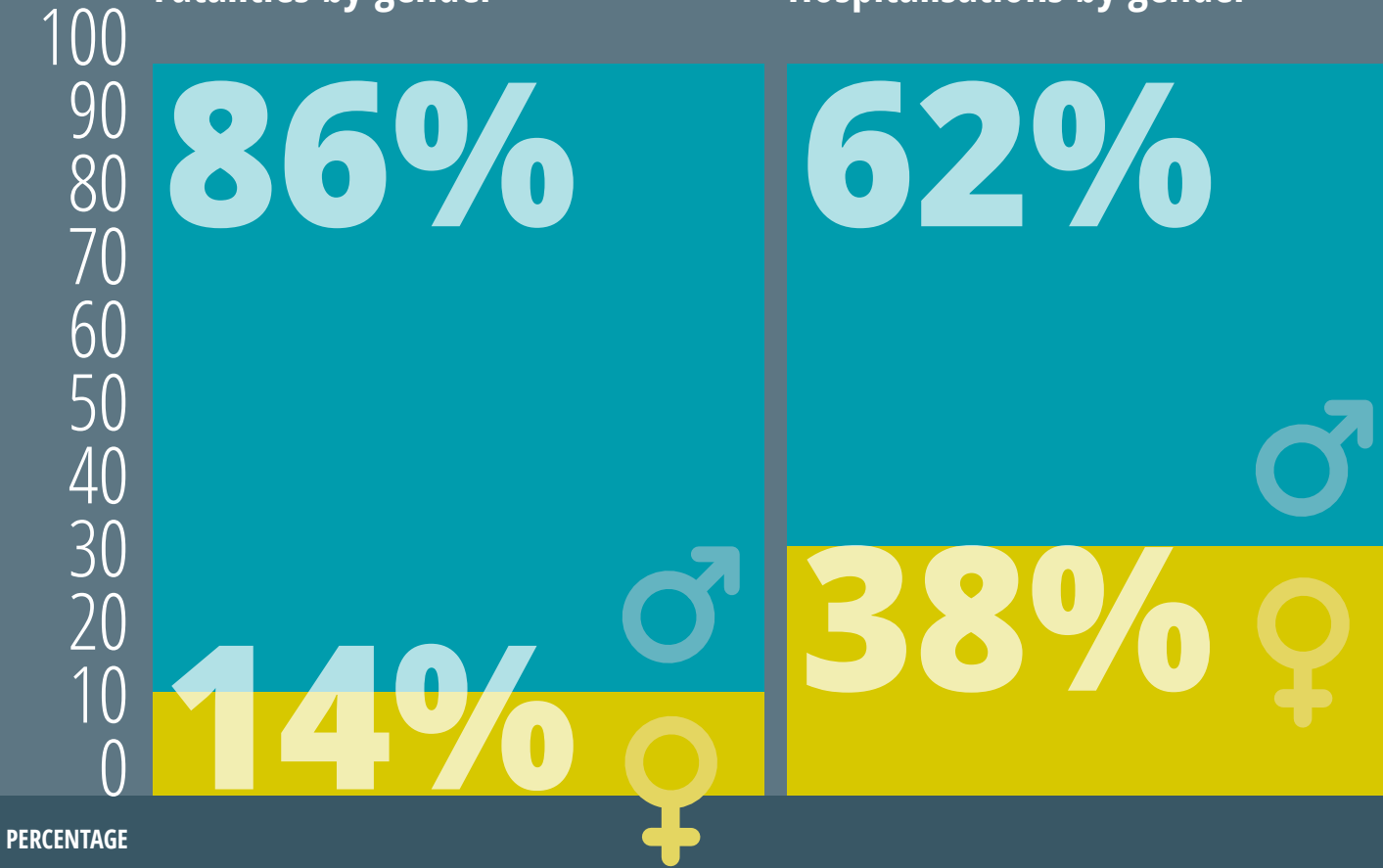
HOSPITALISATIONS

129 78



## Fatalities by gender

## Hospitalisations by gender



Male fatalities involved 16 different activities.



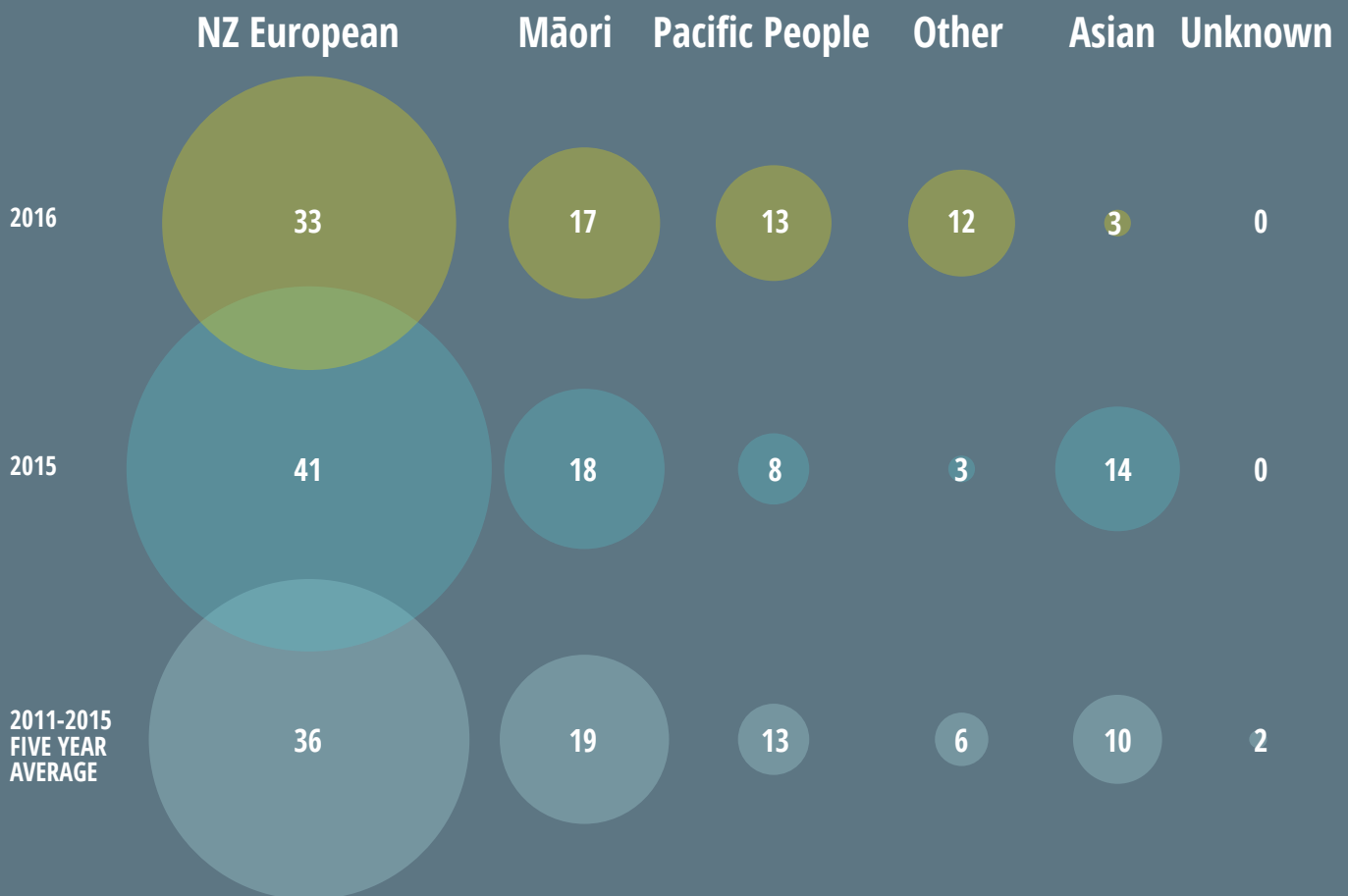
2 activities for female fatalities: swimming and immersion incidents.



Nearly half (37) of all female hospitalisations were under 25 years. Female hospitalisations increased 63% on the five year average (2011-2015) and 44% on 2015.

# 4. Ethnicity

## Fatalities



2016 saw a large drop in Asian fatalities with 11 less than 2015 representing a 79% decrease and 70% decrease on the 2011-2015 five year average.

17% of fatalities involved Pacific Peoples while they make up only 7% of the total New Zealand population.

Pacific People fatalities have increased over the past five years with a spike in 2016 of five over 2015. All Pacific People fatalities were male with 54% in Northland and 29% in Waikato.

Seven of the Pacific People fatalities in 2016 were due to one incident - when the boat 'Francie' foundered on the Kaipara Bar in November 2016.

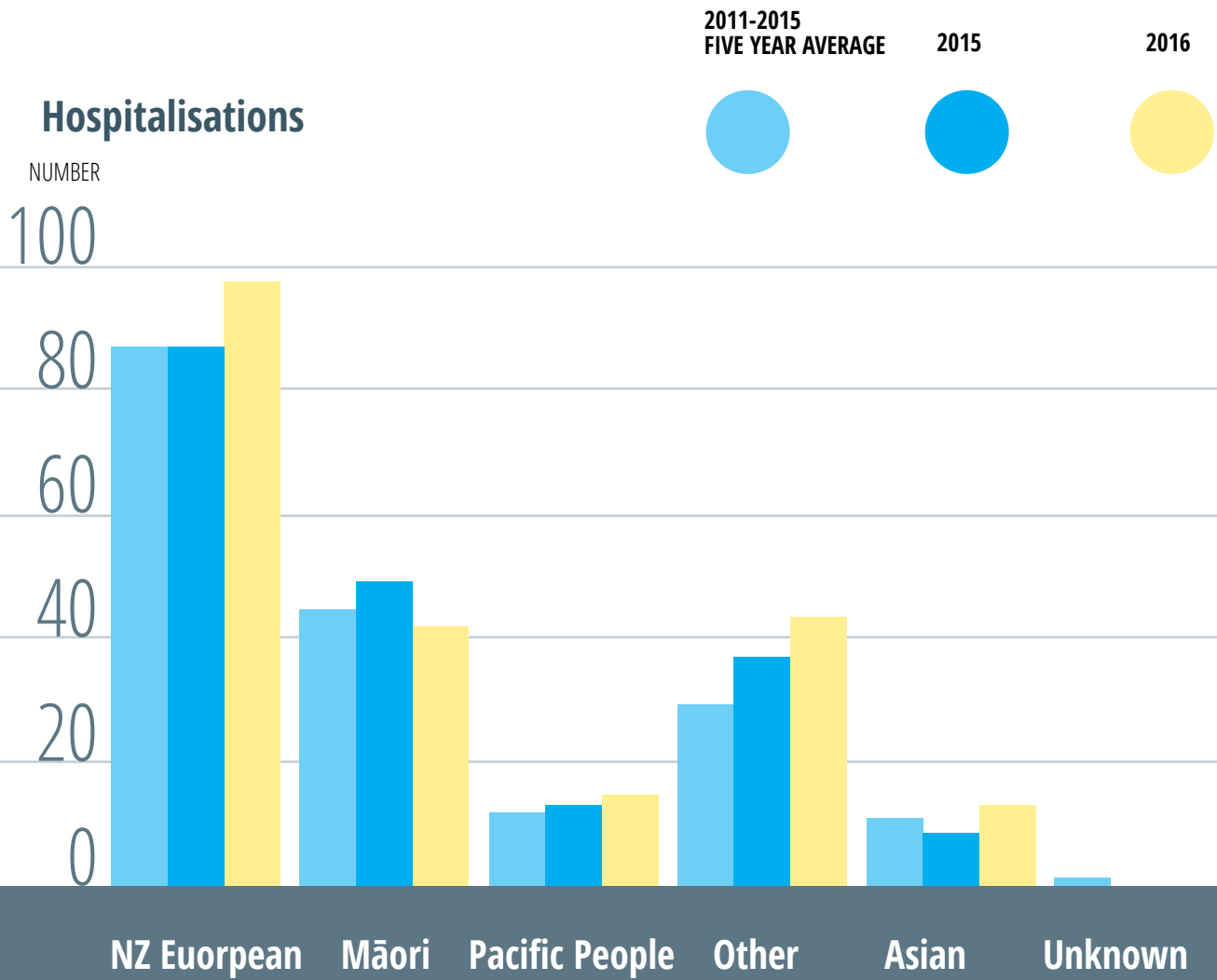
22% of all preventable drownings involved Māori yet they make up only 14% of the total population.

### MĀORI DROWNING DEATHS:

94% male

24% in Northland, 24% in Waikato, 18% in Hawke's Bay

Swimming (7) and underwater activities (3) were the main causes of Māori fatalities.



Māori hospitalisations have decreased 11% from 46 in 2015 to 41 in 2016.

Over half of Māori hospitalisations were children 0 - 4 years. One quarter of Māori hospitalisations occurred in Manawatu-Wanganui.

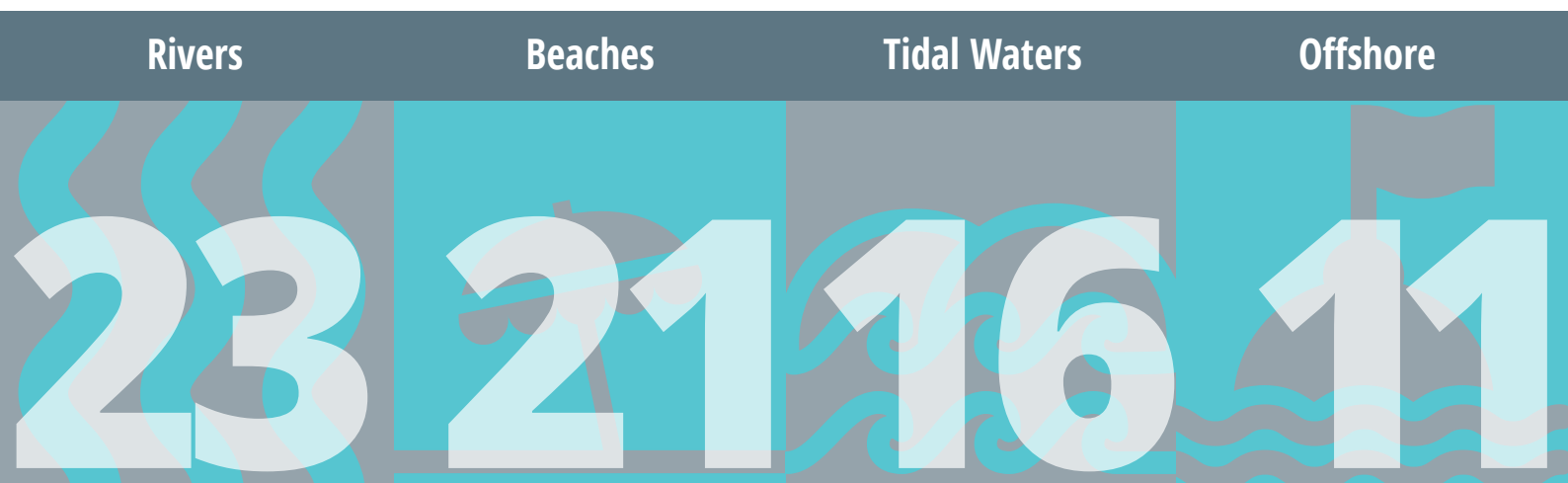
79% Pacific People hospitalisations were aged 0 -24 years and 64% of Pacific People hospitalisations occurred in Auckland.

60% of Asian hospitalisations occurred in Auckland.

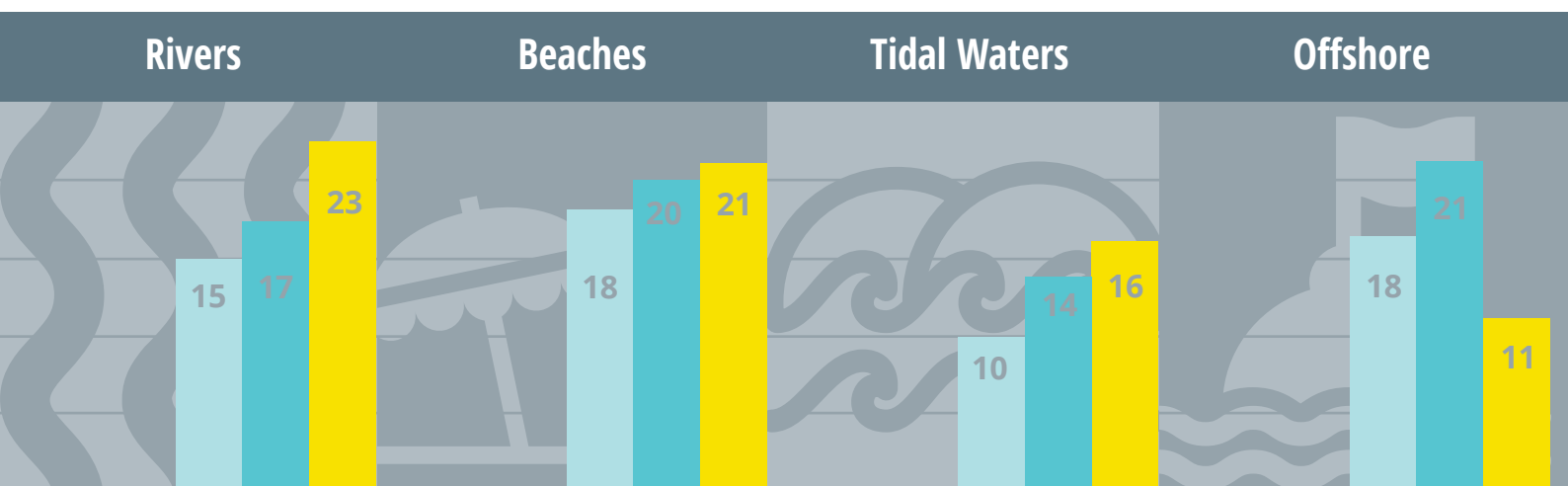
Swimming was the most common activity for hospitalisation for all Ethnicities.

# 5. Environment

## Fatalities by Environment



## Fatalities by Environment over time



### RIVERS

River fatalities make up just under a third of all fatalities and account for the highest number at 23. The number of fatalities in 2016 is 53% higher than the five year average (2011–2015) and a third higher than in 2015.

People 15 – 34 years old make up half the river fatalities and swimming and accidental immersion in rivers a major contributor.

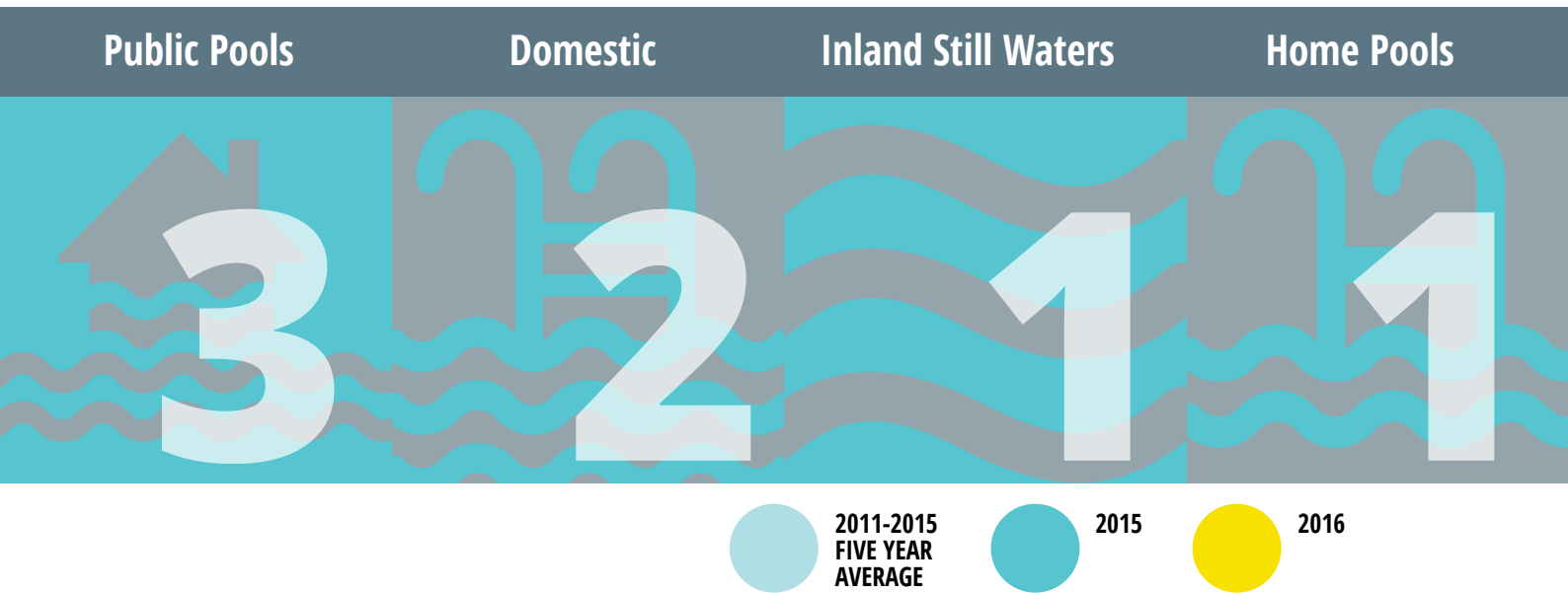
Eight of the 23 River fatalities occurred on the Waikato River.

30% of River fatalities involved alcohol.

### BEACHES

Second highest number of fatalities occurred around Beaches (21). This is one more compared to 2015 and three more than the five year average (2011 – 2015). 21 is the highest beach toll since 2011 with about half of incidents involving swimming.





### TIDAL WATERS

Fatalities in Tidal Waters have increased to 16, up from the five year (2011-2015) average of 10 and up two from 2015. This is the highest toll since 1997. 94% of fatalities were male.

### OFFSHORE

Offshore fatalities are down by 48% from 2015 and 39% lower than the five year average (2011 - 2015). 11 fatalities is ten fewer than in 2015 (21) and represents the lowest offshore toll since 2010. Only 2009 saw fewer drownings (7) in the last 20 years.

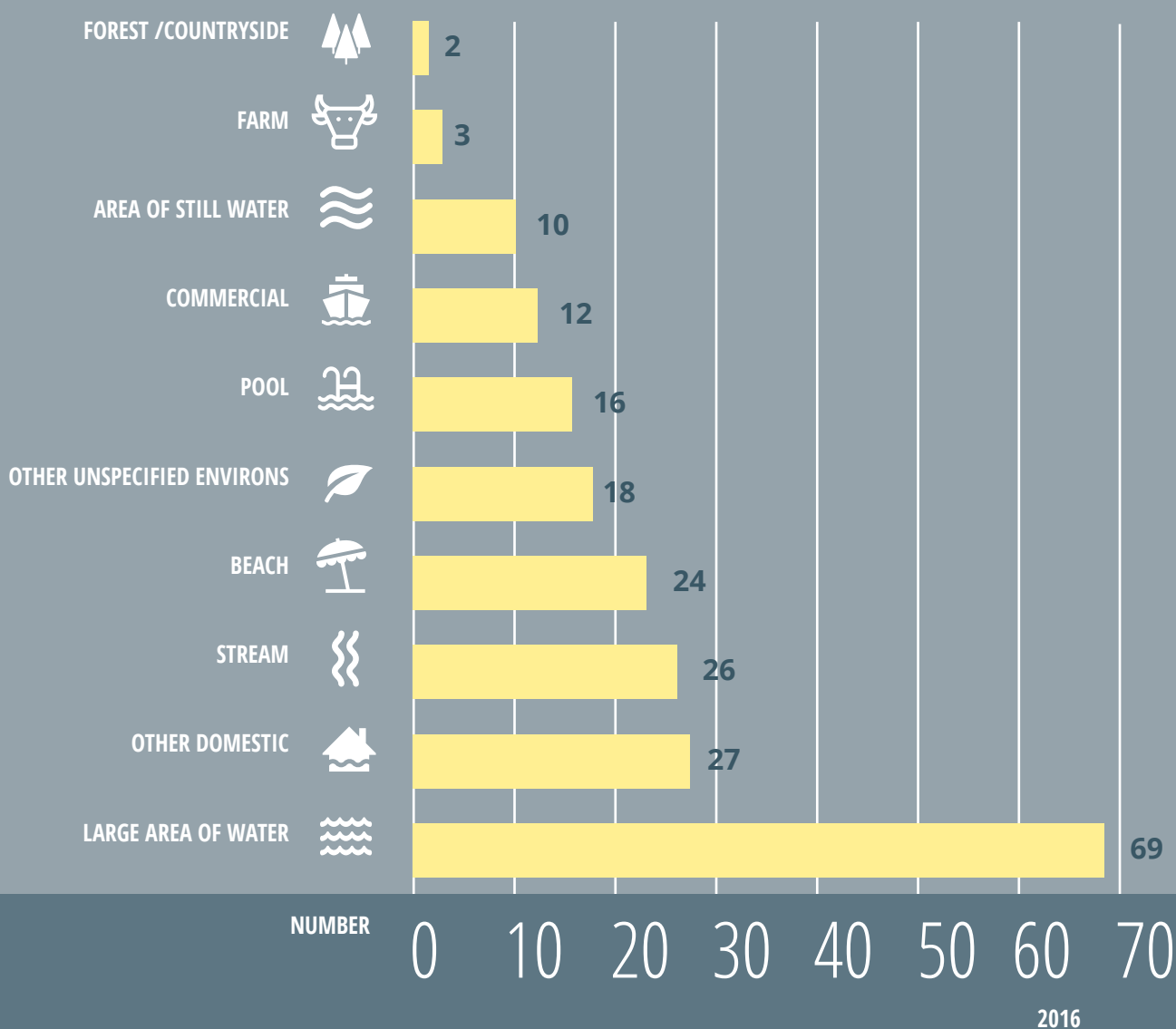
45% of Offshore fatalities were aged 55+, 91% were male, 36% Māori.

36% were performing an underwater activity and 36% involved a powered boat.

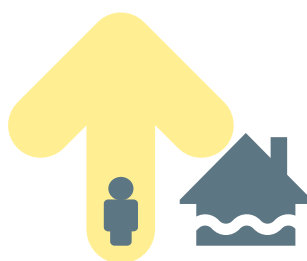
### INLAND STILL WATERS

There was one fatality recorded, representing a 90% decrease on the five year average (2011-2015).

# Hospitalisations by Environment



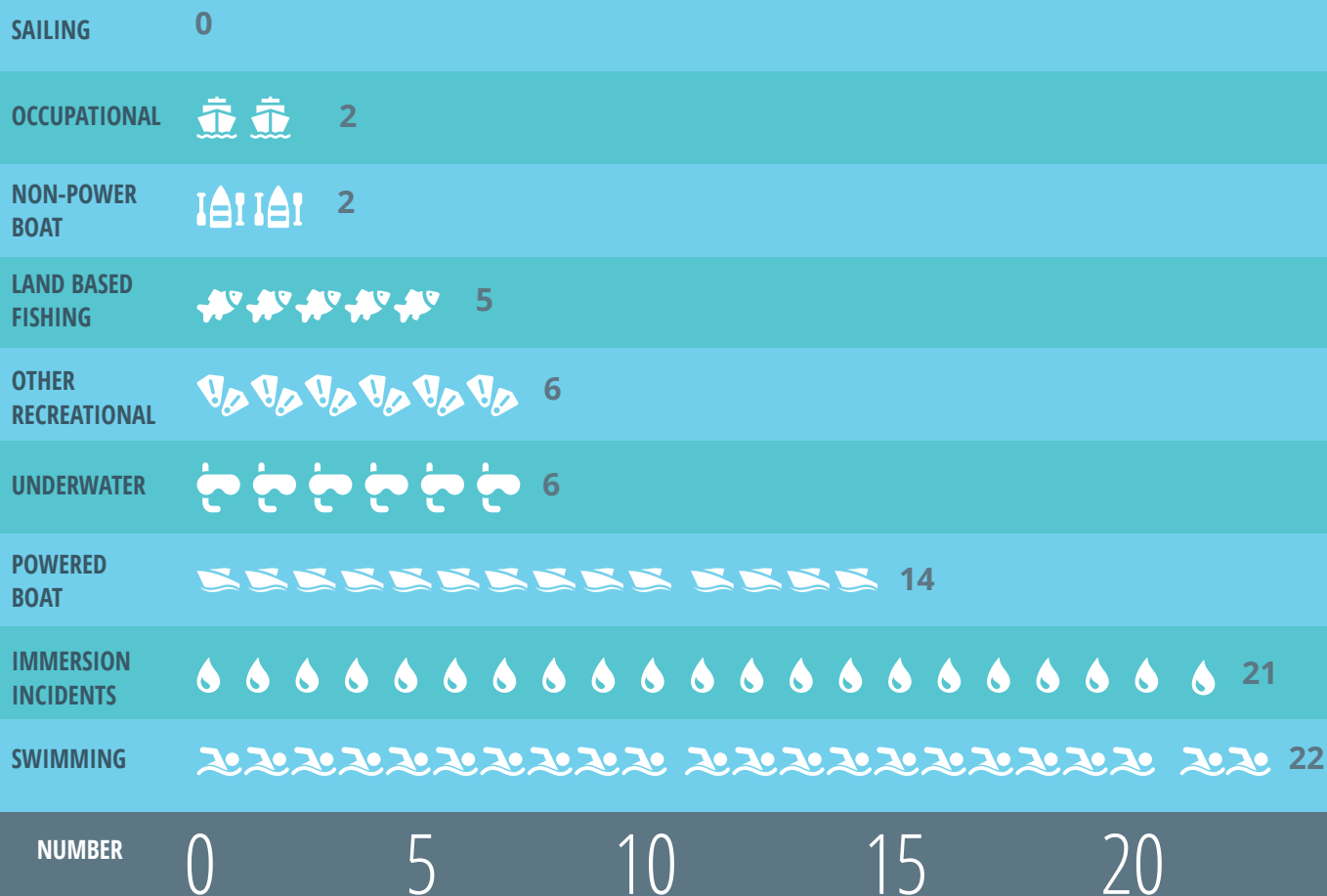
Beach hospitalisations have decreased from 38 in 2015 to 24 this year: a decrease of 37%. This is closer to the 2011-2015 five year average of 26. Half of Beach hospitalisations were from swimming incidents.



Notable increase in hospitalisations are in the 'Other Domestic' category. 12 in 2015, 27 in 2016: an increase of 136% on 2015 and 35% on the five year average (2011-2015). 70% of these were aged 0 – 4 years, which is a similar rate in the past five years. Over half were Māori, which is double the five year average (2011-2015).

# 6. Activity

## Fatalities by Activity



Preventable recreational fatalities (55) account for 71% of all preventable fatalities and this is up by two over on 2015.

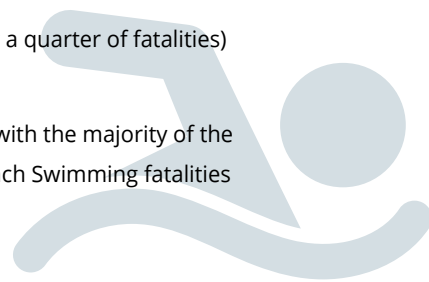
Non recreational fatalities include Immersion Incidents and Occupational (23) and account for 23 preventable fatalities.



### SWIMMING

Swimming accounts for the highest recreational fatalities (22 or over a quarter of fatalities) with six more Swimming fatalities occurring since 2015.

Most Swimming fatalities occurred in rivers (9) and surf beaches (9) with the majority of the river Swimming fatalities occurring in Waikato and the most surf beach Swimming fatalities occurring in Northland.





### POWERED BOATS

Powered Boat Fatalities (14) up by four from 2015. This is the highest toll since 2012. All Powered Boats fatalities were male. 43% were aged over 55 years and not wearing lifejackets.



### UNDERWATER

Underwater fatalities were six and this is down from nine in 2015. All Underwater fatalities were male with 50% Māori and 33% Other Ethnicities. 67% of fatalities occurred up to 1km from shore. All drowned while alone or out of sight of diving buddies.



### OTHER RECREATION

The majority of Other Recreation fatalities involved diving or jumping into water. All were male with 50% Māori and 50% Pacific Peoples.



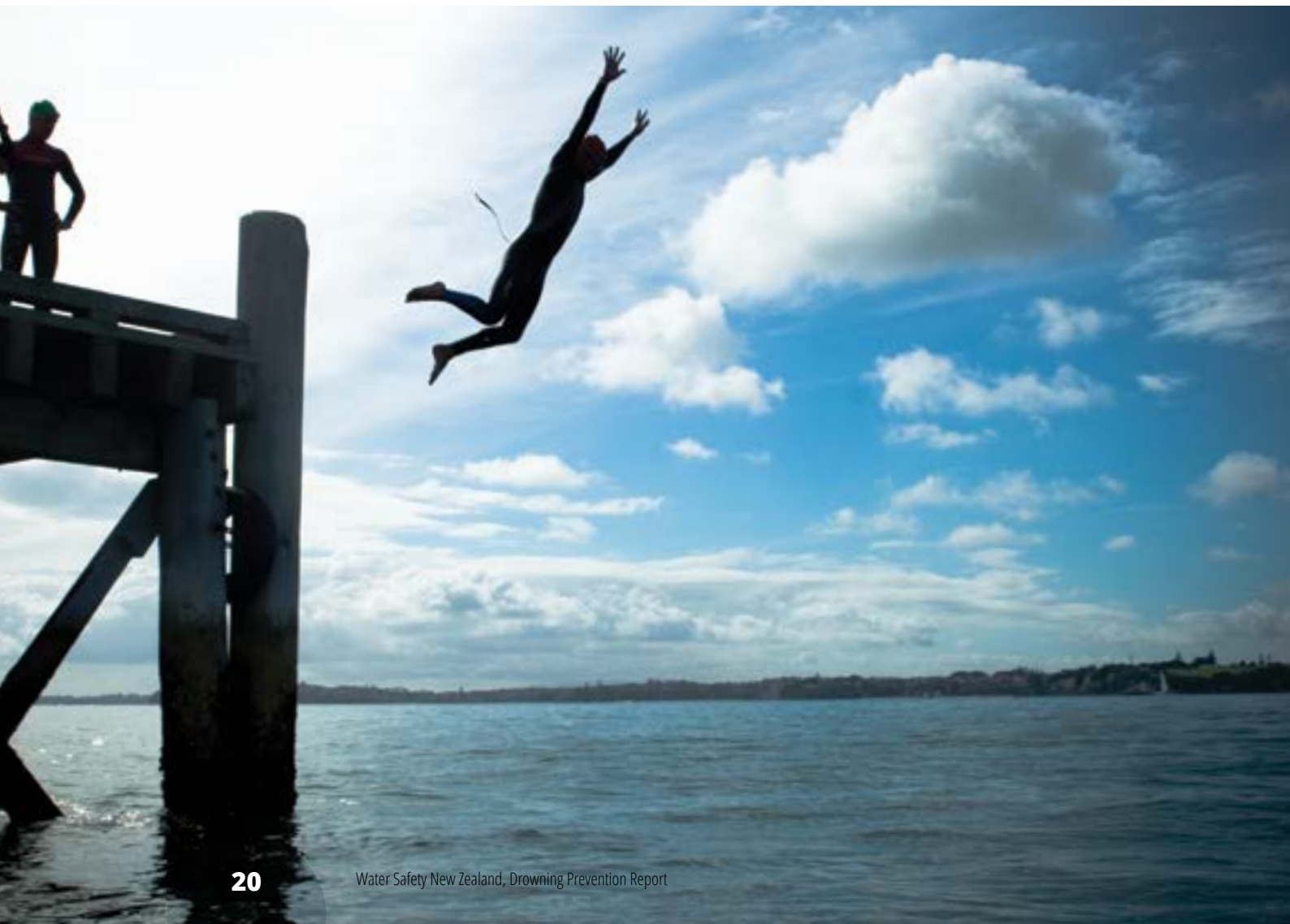
### LAND BASED FISHING

All Land Based Fishing fatalities were male and 80% were NZ Europeans. 80% were fishing alone and 75% of known cases were not wearing a lifejacket.

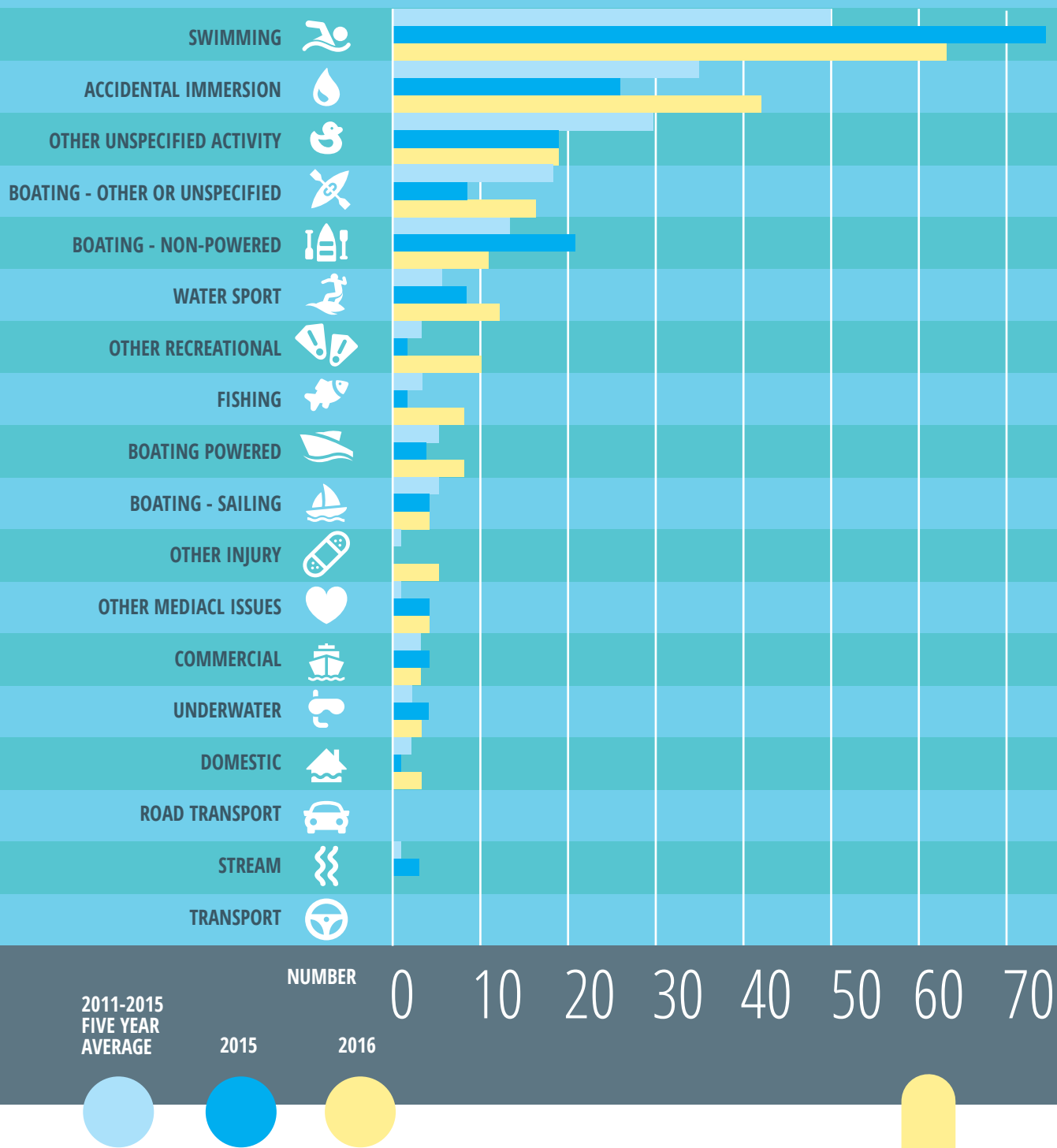


### NON-POWERED BOATS

The two Non-Powered Boat drownings were kayakers in rivers and wearing lifejackets. This number is down from eight in 2015.



# Hospitalisations by Activity and over time



**Swimming hospitalisations** were down from 74 in 2015 to 64 this year: a decrease of 14%. Children and youth aged under 25 made up 63% of these injuries.

**Accidental immersion** were up 15, or 58%, over 2015, to 41. The biggest age group is children 0-4 years (16 or 39%).















# Total Fatalities









## Preventable and Non Preventable

GENDER	2016		2011-2015		
	Number	%	Total	Average	%
Female ♀	19	18	107	21	20
Male ♂	88	82	431	86	80
<b>Total</b>	<b>107</b>	<b>100%</b>	<b>538</b>	<b>108</b>	<b>100%</b>
<b>AGE GROUP</b>					
00 - 04	4	4	32	6	6
05 - 14	5	5	19	4	4
15 - 24	18	17	100	20	19
25 - 34	16	15	67	13	12
35 - 44	14	13	78	16	14
45 - 54	21	20	76	15	14
55 - 64	12	11	79	16	15
65+	17	16	87	17	16
<b>Total</b>	<b>107</b>	<b>100%</b>	<b>538</b>	<b>108</b>	<b>100%</b>
<b>ETHNICITY</b>					
Asian	6	6	64	13	12
Māori	23	21	111	22	21
NZ European	47	44	269	54	50
Other	18	17	41	8	8
Pacific Peoples	13	12	42	8	8
Unknown	0	0	11	2	2
<b>Total</b>	<b>107</b>	<b>100%</b>	<b>538</b>	<b>108</b>	<b>100%</b>



- Relate to non-recreational drowning fatalities
- Relates to Other (non-preventable) drowning fatalities

ACTIVITY	2016		2011-2015		
	Number	%	Total	Average	%
Land-based Fishing 	5	5	34	7	6
Non-powered Boat 	2	2	24	5	4
Powered Boat 	14	13	55	11	10
Sailing 	0	0	8	2	1
Swimming 	22	21	79	16	15
Underwater 	6	6	32	6	6
Other Recreation 	6	6	21	4	4
Immersion Incidents 	21	20	140	28	26
Occupational 	2	2	11	2	2
Other 	29	27	134	27	25
<b>Total</b>	<b>107</b>	<b>100%</b>	<b>538</b>	<b>108</b>	<b>100%</b>














### ENVIRONMENT

Beaches 	25	23	109	22	20
Domestic 	3	3	36	7	7
Home Pools 	1	1	19	4	4
Inland Still Waters 	5	5	70	14	13
Offshore 	11	10	100	20	19
Public Pools 	2	2	9	2	2
Rivers 	40	37	121	24	22
Tidal Waters 	20	19	74	15	14
<b>Total</b>	<b>107</b>	<b>100%</b>	<b>538</b>	<b>108</b>	<b>100%</b>



















# Total Hospitalisations

GENDER	2016		2011-2015		
	Number	%	Total	Average	%
Female 	78	38	242	48	27
Male 	129	62	649	130	73
<b>Total</b>	<b>207</b>	<b>100%</b>	<b>891</b>	<b>178</b>	<b>100%</b>

AGE GROUP	2016 Number	2016 %	2011-2015 Total	2011-2015 Average	2011-2015 %
00 - 04	42	20	159	32	18
05 - 14	20	10	110	22	12
15 - 24	32	15	156	31	18
25 - 34	29	14	107	21	12
35 - 44	17	8	88	18	10
45 - 54	25	12	105	21	12
55 - 64	17	8	81	16	9
65+	25	12	85	17	10
<b>Total</b>	<b>207</b>	<b>100%</b>	<b>891</b>	<b>178</b>	<b>100%</b>

ENVIRONMENT	2016 Number	2016 %	2011-2015 Total	2011-2015 Average	2011-2015 %
Area of Still Water 	10	5	32	6	4
Beach 	24	12	132	26	15
Commercial 	12	6	13	3	1
Farm 	3	1	10	2	1
Forest / Countryside 	2	1	15	3	2
Large Area of Water 	69	33	350	70	39
Other Domestic 	27	13	99	20	11
Other Unspecified Environment 	18	9	66	13	7
Pool 	16	8	75	15	8
Roadway 	0	0	2	0	0
School 	0	0	6	1	1
Sports & athletics area 	0	0	0	0	0
Stream 	26	13	91	18	10
<b>Total</b>	<b>207</b>	<b>100%</b>	<b>891</b>	<b>178</b>	<b>100%</b>

ETHNICITY	2016		2011-2015		
	Number	%	Total	Average	%
Asian	10	5	45	9	5
Māori	41	20	214	43	24
NZ European	97	47	423	85	48
Other	42	20	142	28	16
Pacific Peoples	14	7	60	12	7
Unknown	3	1	7	1	1
<b>Total</b>	<b>207</b>	<b>100%</b>	<b>891</b>	<b>178</b>	<b>100%</b>

ACTIVITY		2016		2011-2015		
Accidental Immersion		41	20	186	37	21
Boating - Non-powered		11	5	67	13	8
Boating - Other or Unspecified		15	7	90	18	10
Boating - Powered		8	4	24	5	3
Boating - Sailing		4	2	23	5	3
Commercial		3	1	15	3	2
Domestic		2	1	7	1	1
Fishing		8	4	16	3	2
Other Injury		4	2	2	0	0
Other Medical Issues		3	1	3	1	0
Other Recreation		10	5	17	3	2
Other Unspecified Activity		19	9	150	30	17
Road Transport		0	0	0	0	0
Stream		0	0	3	1	0
Swimming		64	31	250	50	28
Transport		0	0	0	0	0
Underwater		3	1	10	2	1
Water Sport		12	6	28	6	3
<b>Total</b>		<b>207</b>	<b>100%</b>	<b>891</b>	<b>178</b>	<b>100%</b>

MISSION

To educate, empower and support people throughout their life stages to safely have experiences in, on or around water, to the best of their knowledge, skills and ability.

WITH SPECIAL THANKS TO OUR GOVERNMENT PARTNERS



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