Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

Recreational Craft Fatal Accidents

2023 Update

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PREPARED BY

Research, Analysis, and Intelligence (RAI)

Contents

Appendices

Glossary

Term	Definition
Accident	A safety occurrence meeting the requirements detailed in the Maritime Transport Act 1994 s2(1), including an occurrence resulting in serious harm, which includes a death/fatality
Allision	A vessel striking an object such as a wharf or beacon
Bar	An area of sediment near the entrance to a river or harbour that can create hazardous sea states in certain tide and wind conditions
Canoe	An open paddle craft powered by single bladed paddles
Capsize	Vessel is rolled past 90 degrees, usually resulting in those on board entering the water
Collision	A vessel striking another vessel or person
Grounding	A vessel striking the sea floor, lake/river bed, ground, rocks, or shore
Dinghy	A small open vessel, whether powered by engine, oars, paddles, or sails
Incident	A safety occurrence, other than an accident, that is associated with the operation of a ship and affects or could affect the safety of operation
Inflatable	A vessel where primary floatation comes from inflated cells. Includes inflatable dinghies, rigid inflatable vessels (RIB/IRB) and rafts
Kayak	An enclosed or semi-enclosed paddle craft including sit-on-top and sea kayaks, powered by two bladed paddles.
MFED	Maritime Fatal Event Database
Missing Presumed Dead	A deceased person who's body is never recovered, including if they are subsequently declared dead
Maritime NZ	Maritime New Zealand
MTA	Maritime Transport Act 1994
Overboard	A person falling from a vessel into the water either due to sea state or the person's own movement, with the vessel remaining afloat and upright
Power boat	A vessel primarily powered by an engine where design characteristics make it unsuitable to be classified as a dinghy, in particular being partially enclosed
RCCNZ	Rescue Coordination Centre New Zealand
Recreational boat/vessel/craft	A pleasure craft as described by MTA s2
Swamped	Vessel is filled with water due to a wave or other movement sufficient to compromise stability or buoyancy
Yacht	A vessel primarily powered by sail, excluding sailing dinghies

Executive summary

This document is a summary of recreational craft fatal accidents during 2023. This report supports the Recreational Boating Fatal Accidents 2015-2020 report and the 2021 and 2022 updates available on the Maritime New Zealand (Maritime NZ) website at https://www.maritimenz.govt.nz/recreational/safety/recreational-research.asp (previous analysis reports).

Each year a number of people die while participating in recreational boating, an activity pursued for enjoyment, by individuals, friends or family. Each accident is tragic and has its own unique set of circumstances, but the common factors across these accidents can help highlight ways that similar deaths may be prevented in the future.

In 2023 there was a total of 12 accidents resulting in 12 deaths or persons missing and presumed dead. This placed 2023 below the 10 year average of approximately 18 deaths per year.

As with 2022, 2023 there was a higher proportion of accidents in the northern half of the North Island than shown in the 2015-2020 report, and a greater proportion of kayaks than previous analysis reports. A majority of these accidents occurred close to shore or on rivers.

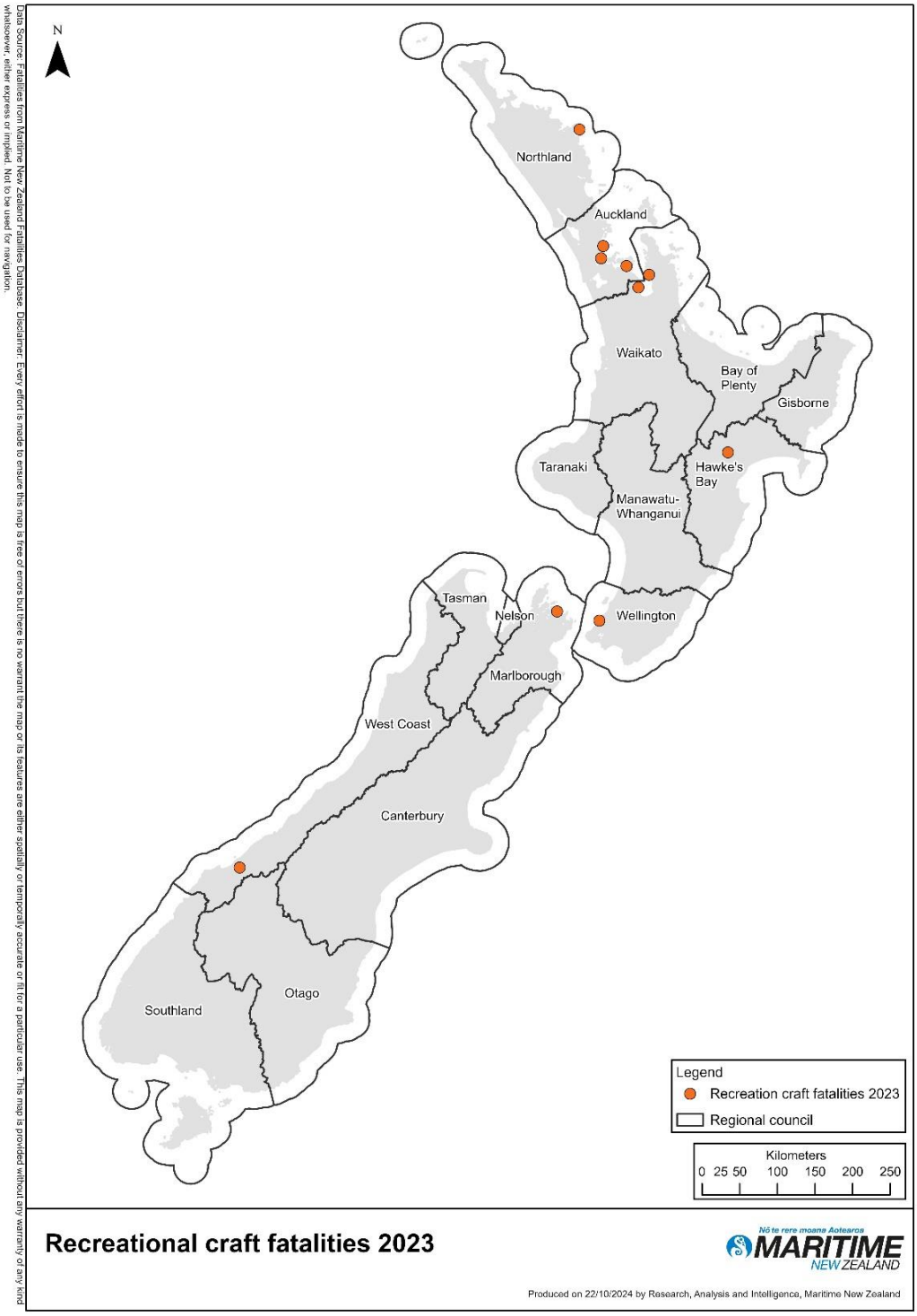
The majority of other accident characteristics followed the longer term trends shown in the 2015-2020, 2021, and 2022 reports, including an over representation of males, although the victims were younger than the long term trend.

As described in detail in previous analysis reports, most accidents happened suddenly, resulting in people entering the water with little warning. Very few were able to call for help with waterproof communication equipment, although a number of victims were wearing a lifejacket, and a majority had lifejackets available to wear but weren't wearing one. Accidents where those who died had a lifejacket on however continued to include other factors that influenced the lifejacket not being sufficient to save their life, in particular water conditions or a lack of being able to call for help. These findings continue to inform the Safer Boating Forums safety guidelines to recreational participants.

1 Fatal Accident Overview

The map below in Figure 1 shows that fatal accidents in 2023 occurred almost entirely in the North Island, and in particular Auckland and northern Waikato. This is in contrast to the findings of the 2015-2020 report, where accidents were more evenly distributed across the country, generally in line with participation rates.

Figure 1: Recreational craft fatalities 2023

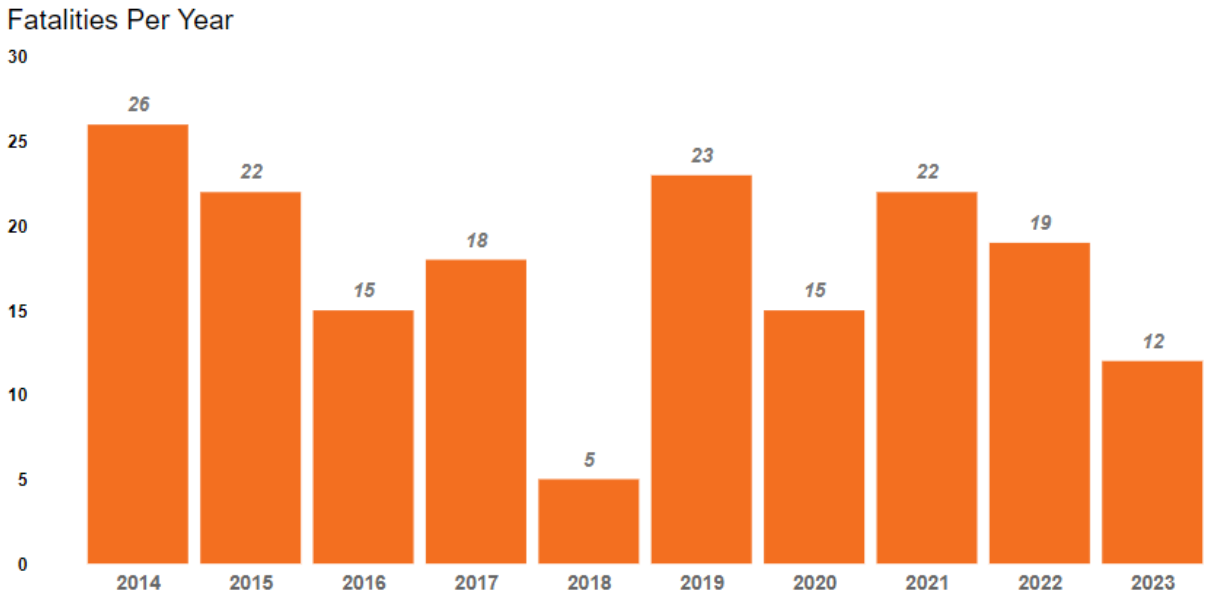


Note - the map excludes two yacht accidents in the vicinity of Fiji to preserve the map scale.

1.1 Fatal Accidents Over Years and Season

Ten Year Trend

The chart below shows the number of fatalities per year over the last 10 years:



The 12 fatal accidents that occurred in 2023 placed that year well below the 10 year average of 18 deaths.

There is however no significant trend in annual deaths over this period, and it can also be noted that both a high outlier like 2019 or a low outlier like 2018 do not predict future trends, with a majority of years falling between 15 and 22 fatalities per year.

Seasonal Variation

The table below shows the seasonal variation of 2023 fatal accidents closely followed the trend identified in the previous analysis reports, with a peak in summer.

Season	Number of Fatalities
Summer	5 (42%)
Autumn	0 (0%)
Winter	4 (33%)
Spring	3 (25%)

1.2 Accidents by Location and Waters

By Region

The table below details the number of fatalities for each region in New Zealand and the percentage of total fatalities for the country this represents:

Region	Number of Fatalities	Percentage of 2022 Total Fatalities
Northland	1	8%
Auckland	3	25%
Waikato	2	17%
Bay of Plenty	0	0%
Gisborne	0	0%
Taranaki	0	0%
Hawkes Bay	1	8%
Manawatu	0	0%
Wellington	1	8%
Marlborough	1	8%
Nelson	0	0%
Tasman	0	0%
West Coast	1	8%
Canterbury	0	0%
Otago	0	0%
Southland	0	0%
Outside New Zealand[1]	2	17%

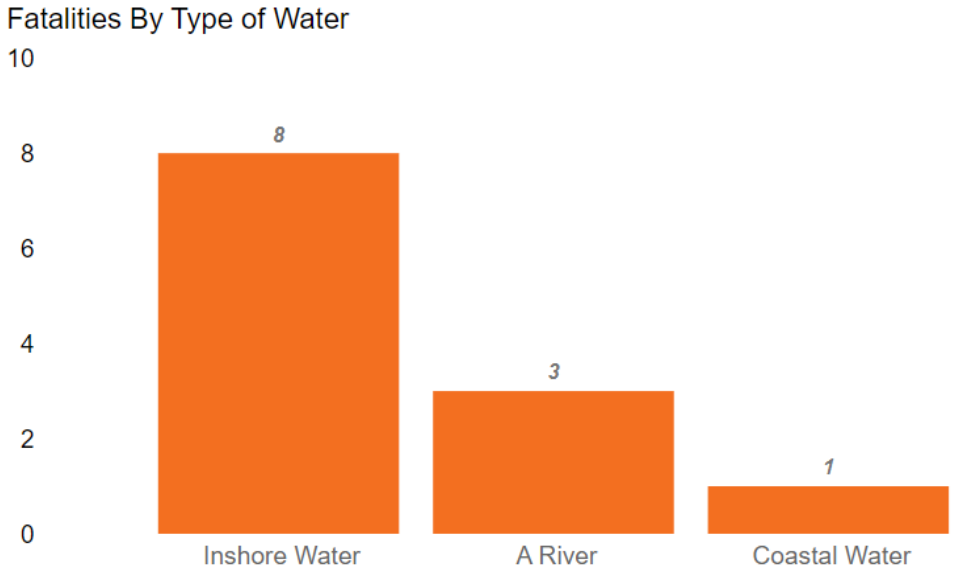
As shown in in Figure 1, most fatal accidents in 2023 occurred in the northern half of the North Island. This is similar to the distribution identified in the 2022 analysis, and is in contrast to the finding of the 2015-2020 report, where accidents were more evenly distributed across the country, generally in line with participation rates.

Details of fatalities per region per year are available in Appendix 1.

[1] a vessel outside of New Zealand is counted if it was a “New Zealand ship” at the time of the accident as per Maritime Transport Act 1994, s 2(1)

By Type of Waterway

The chart below shows the number of fatalities for each type of waterway:



Inshore waters extends to 12nm from shore, meaning a majority of accidents on salt waterways occur there.

Analysis of ten years of accidents show that approximately 80% of accidents on salt water (excluding lakes and rivers) occur less than 1nm from shore, approximately 60% occur less than 500m from shore, and approximately 50% occur less than 200m from shore.

2022 had an increase in accidents occurring on inland waterways, in particular lakes, however this has not continued in 2023.

2 Fatal Accidents by Vessel Characteristics

2.1 Basic Vessel Type

The table below details the number of fatalities for each basic vessel type[2]:

Basic Vessel Type	Number of Fatalities	Number of Vessels
Power Boat	2	2
Dinghy	1	1
Kayak/Canoe	3	3
Inflatable	2	2
Yacht	3	3
Other	1	1

This shows the continued shift away from power boats being involved in the majority of accidents towards kayaks and dinghies/inflatables that was identified in 2022. These were particularly present in accidents occurring on inland waterways as described in section 1.2.

Details of fatalities per vessel type per year and per region are available in Appendix 1.

2.2 Vessel Length

The table below shows the split of vessels over and under 6m:

Basic Vessel Type	Number of Fatalities	Number of Vessels
6m or less	7	7
Greater than 6m	5	5

This is a greater proportion of vessels over 6m than in any previous year. This is driven by the larger number of yachts, with one power boat and one other vessel (waka ama) also being over 6m in length.

[2] Basic vessel type is a simplification of vessel type often used during qualitative research, reporting, and when sharing data between organisation. More specific vessel type analysis is available in the 2015-2020 report.

3 Demographic Details

3.1 Age

Contrary to the long term trend victims in 2023 tended to be younger, with half of those dying being younger than 40, with the median age being 34 years.

In years like 2023 with an increased number of deaths involving paddle craft the deaths tend to be younger victims.

2023 saw the death of one child, who fell overboard while the yacht they were on was anchored in Fiji.

3.2 Gender

Of the 12 people that died in 2023, 11 were male, and one was female. This ratio is an overrepresentation of males compared to the longer term trend.

3.3 Ethnicity[3]

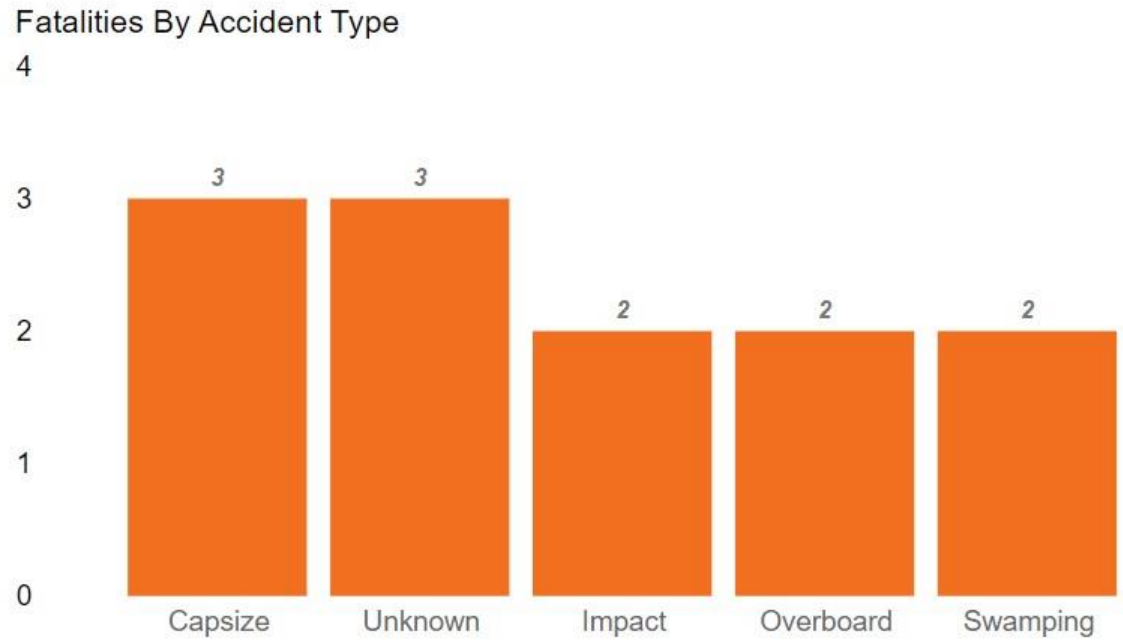
Due to gaps in available ethnicity information for 2023 no analysis has been conducted. It is planned to look to refresh ethnicity information for several years of accidents to improve data quality in this area.

[3] Long term ethnicity data for 2015-2022 reports provided primarily by Water Safety New Zealand, with additional input from investigation findings via Police or Maritime New Zealand investigation staff.

4 Accident Types

4.1 Overview

Each fatal accident has at least one descriptor added to it that described the nature of the accident at the centre of the bowtie model[4].



This is a more even distribution than in previous years, where a high number of capsize or overboard accidents is usually present.

However the three accidents where the exact circumstances were unknown all involved small vessels where a capsize or overboard accidents was likely.

The two impact accidents occurred on sailing yachts, both of which involved a person on board being struck by main sail rigging during an unintended gybe in a difficult sea state. A gybe results in the boom and rigging passing over and through the cockpit space respectively, with a high likelihood of injury if crew are in an unsafe position.

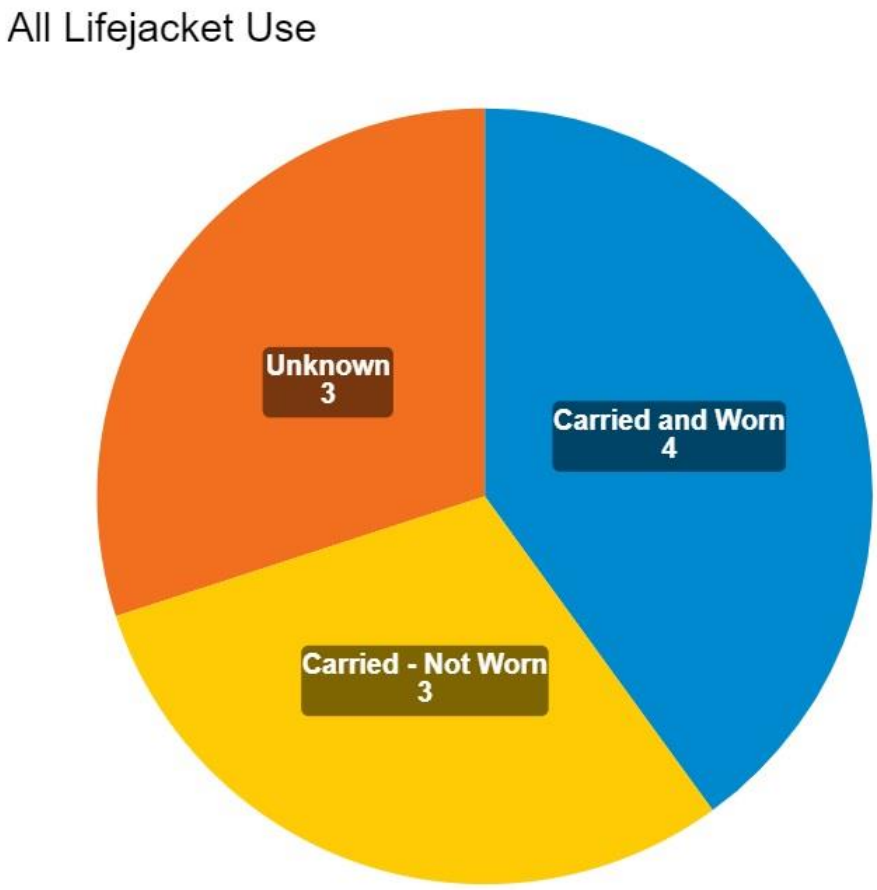
As with the previous accident analysis, most of these accidents happened suddenly, resulting in the victims ending up in the water with little warning.

[4] The bowtie model is detailed in the Recreational Boating Fatal Accidents: 2015-2020 report

5 Safety Equipment Details

5.1 Lifejacket Overview

The chart below shows the lifejacket use recorded for each fatality that involved entry into the water (excluding traumatic/impact accidents).



5.2 Lifejacket Carriage

As shown in the 5.1 chart, seven (70%) of people who died were known to have a lifejacket available to them on board.

5.3 Lifejacket Wearing

As shown in the 5.1 chart, only three (30%) people who died were confirmed to not be wearing a lifejacket when they entered the water.

Of the four deaths where the victim was wearing a lifejacket three involved a paddle craft user being separated from their craft, and one a person whose power boat drifted from shore in fading light as they attempted to start the engine.

None of these accidents had clear evidence of the lifejacket not performing as expected. One occurred in river rapids, where a lifejacket is often unable to save a victim even if worn correctly; and

two involved victims who were unable to be recovered while still alive due to the absence of any communication devices.

5.4 Communication Devices

As noted in previous reports, very few fatal accidents involve people who were able to call for help in some way. This trend continued in 2023, indicating that most of those who die on the water either weren't carrying waterproof communication devices or, those that were, the devices were not accessible following a likely sudden capsize, or overboard accident.

High profile accidents such as on the Manukau Harbour bar in 2021 also show the limitations of communication via cell phone following an accident. Limitations of the touch screen when wet and the phone eventually being dropped and sinking meant that the victims location was only able to be determined by cell signal data[5].

[5] As described in the final report from the Transport Accident Investigation Commission, reference: MO-2021-204

Appendix 1: 2015 – 2023 Data Tables

Deaths Per Year (2011-2023)

Year	Number of Fatalities
2011	20
2012	13
2013	17
2014	26
2015	22
2016	15
2017	18
2018	5
2019	23
2020	15
2021	22
2022	19
2023	12

Deaths Per Region Per Year (2015-2023)

Region	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Northland	2	2	3	3	5	0	2	3	1	**21**
Auckland	4	0	2	0	3	6	5	5	3	**28**
Waikato	4	1	0	0	3	1	3	2	2	**16**
Bay of Plenty	2	0	6	0	2	0	2	4	0	**16**
Gisborne	0	1	0	0	0	0	1	0	0	**2**
Taranaki	1	2	1	0	0	0	1	0	0	**5**
Hawkes Bay	0	1	0	0	0	0	0	2	1	**4**
Manawatu	1	0	0	0	0	1	0	0	0	**2**
Wellington	3	0	2	0	0	2	3	1	1	**12**
Marlborough	0	0	0	0	1	1	0	0	1	**3**
Nelson	0	0	0	0	0	0	0	0	0	**0**
Tasman	0	0	0	0	0	1	0	0	0	**1**
West Coast	1	2	1	0	2	0	1	0	1	**8**
Canterbury	0	2	2	0	1	1	0	2	0	**9**
Otago	3	0	0	1	1	1	2	0	0	**8**
Southland	1	2	1	1	4	1	2	0	0	**12**
Outside New Zealand	0	2	0	0	1	0	0	0	2	**5**

Orange shading indicates where one year accounts for 20% or more of a regions total (min total of 10)

Deaths Per Basic Vessel Type Per Region (2015-2023)

Region	Dinghy	Inflatable	Jet Ski	Kayak	Power Boat	Yacht	Other	Total
Northland	10	2	1	2	4	2	0	**21**
Auckland	6	2	1	3	10	2	3	**27**
Waikato	1	2	1	5	4	0	1	**14**
Bay of Plenty	1	1	1	5	4	1	0	**13**
Gisborne	1	0	0	0	1	0	0	**2**
Taranaki	0	1	1	0	3	0	0	**5**
Hawkes Bay	1	1	0	1	1	0	0	**4**
Manawatu	1	0	0	1	0	0	0	**2**
Wellington	3	4	0	2	0	1	1	**11**
Marlborough	0	0	0	0	3	0	0	**3**
Nelson	0	0	0	0	0	0	0	**0**
Tasman	0	0	0	1	0	0	0	**1**
West Coast	0	3	0	3	2	0	0	**8**
Canterbury	1	0	1	2	4	1	0	**9**
Otago	0	1	0	1	6	0	0	**8**
Southland	1	1	0	1	8	1	0	**12**
Outside New Zealand	0	0	0	0	0	5	0	**5**

Orange shading indicates where one vessel type accounts for 35% or more of a regions total (min total of 5)

Deaths Per Basic Vessel Type Per Year (2015-2023)

Vessel Type	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Dinghy	4	2	3	2	4	3	4	7	1	**30**
Inflatable	3	1	3	2	1	3	1	1	2	**17**
Jet Ski	1	1	0	0	0	0	3	1	0	**6**
Kayak	6	3	1	1	2	3	3	6	3	**28**
Power Boat	6	6	6	0	14	5	10	4	2	**53**
Yacht	1	2	4	0	1	1	0	0	3	**12**
Other	1	0	1	0	1	0	1	0	1	**5**

Orange shading indicates where one year accounts for 20% or more of a vessel's total (min total of 5)