COASTAL SAFETY REPORT 2020

SURF LIFE SAVING NEW SOUTH WALES

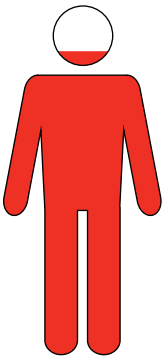
SURF LIFE SAVING
NEW SOUTH WALES

DROWNING

SNAPSHOT

COASTAL AND OCEAN DROWNING DEATHS

NB: Arrow indicates the direction of change from last year's statistic

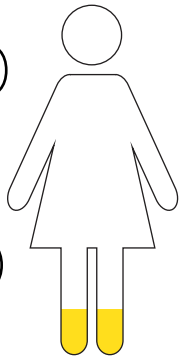


88%

MALE

12%

FEMALE



LOCATION

45%

AT THE BEACH

27%

OFFSHORE

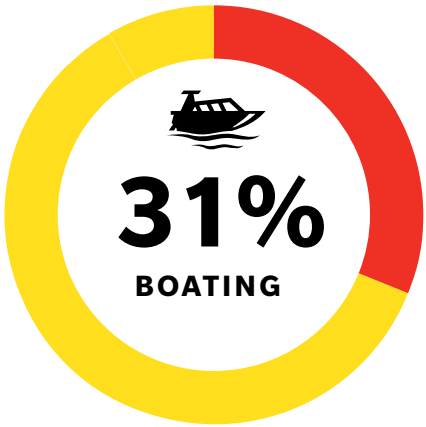
22%

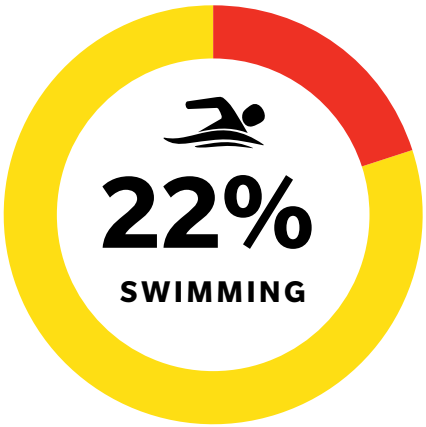
ROCK/CLIFF

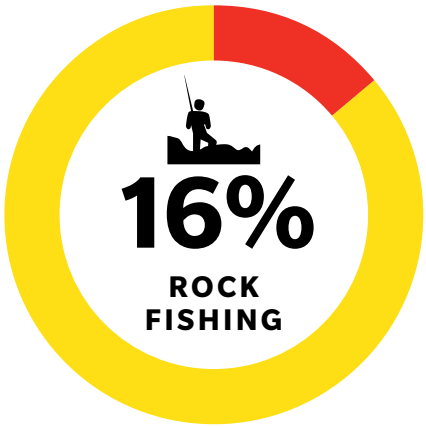
AT LEAST 5KM FROM A SURF LIFE SAVING SERVICE

35%

ACTIVITY







CONTENTS


SURF RESCU

INTRODUCTION

On behalf of the Board of Surf Life Saving NSW, it is a pleasure to present the SLSNSW Coastal Safety Report 2020.

The 2019/20 season was like no other, with devastating bushfires and the COVID-19 pandemic impacting the use of beaches throughout New South Wales and the wider community in general.

The patrol season ended four weeks early as social distancing measures were implemented to reduce the spread of COVID-19. Despite this, more than 10 million visitations were recorded on beaches in New South Wales in the 12 months from 1 July 2019 to 30 June 2020. Surf lifesavers and lifeguards rescued 3,178 people, treated 11,954 people for injuries or medical complaints, and performed 749,255 preventative actions. In addition, the Surf Emergency Response System (SERS) responded to 599 activations, which resulted in 219 lives being saved.

Tragically, we saw an increase in coastal and ocean drowning deaths during the 2019/20 season. A total of 49 lives were lost; this represents a 14 percent increase on last year's figure and is above the 16-year average of 42. This year also saw a considerable spike in incidents involving people who were boating, with these fatalities comprising 31 percent of all coastal and ocean drowning deaths. These tragedies highlight the need for boaters to check the conditions and always wear a correctly fitted lifejacket.

Research into coastal and ocean drowning deaths continues to be a key focus for Surf Life Saving NSW to understand where, when, and why tragic incidents occur.

This is being further enhanced by the commencement of a state-wide coastal risk assessment project, known as *Coastal insights: safer coasts for the future*, which is due to be delivered by June 2023. This evidence-based project investigates the use of beaches, shore platforms, and coastal waterways and explores what we can learn from the tragedies that have occurred.

This project will enable Surf Life Saving NSW, in partnership with Local Government Areas, NSW National Parks and Wildlife Service and other water safety stakeholders, to develop and target safety interventions and other preventative measures where and when they are most needed to reduce the risk of incidents in the future.

The drowning statistics also reinforce the need for us to push surf safety messages throughout our communities. While our surf lifesaving and lifeguarding services continue to be the cornerstone of our service delivery across NSW, we also continue to invest in and develop our community education programs.

This year, the COVID-19 pandemic expedited our push to provide online learning opportunities for members of the public. Furthermore, the Australian UAV Service continues to grow, and we are always seeking to adapt and utilise new and emerging technologies to assist us in managing the safety of the public.

As a gazetted emergency service organisation under the NSW State Emergency Service and Rescue Management Act, Surf Life Saving NSW also demonstrated its broader value to the community during the bushfire emergency.

Many Surf Life Saving Clubs became evacuation and welfare centres for community protection and response. This highlighted the skills, values, and strengths of our membership and we are extremely proud of the way they stood up to assist their local communities in their time of need.

We are confident that our unique position within the emergency services sector will continue to be recognised and utilised. Our capacity has recently been enhanced by the opening of our upgraded State Operations Centre.

Our primary focus is, and will always remain, the supervision, surveillance, and protection of our community as they enjoy our coastline. The statistics in this report show that many people continue to enjoy a multitude of recreational activities along our beautiful coastline, but every life lost is one too many.

We believe that this edition of the SLSNSW Coastal Safety Report will prove to be a valuable resource for our members, government, water safety organisations, emergency services, researchers, partners, sponsors, community groups, and media. It aims to inform them of the recent trends in fatal incidents in NSW, and the safety interventions and other preventative measures being undertaken by Surf Life Saving NSW.

I commend this report to you as a vital tool to help us all understand and reduce drowning deaths along the NSW coastline.

Joel Wiseman
SLSNSW Director of Lifesaving

COMMUNITY

SECTION ONE

4.7M
NSW adults visited the coast in 2019/20

3.8M
NSW coastal activity participants

3.3M
Swimming/wading participants in NSW

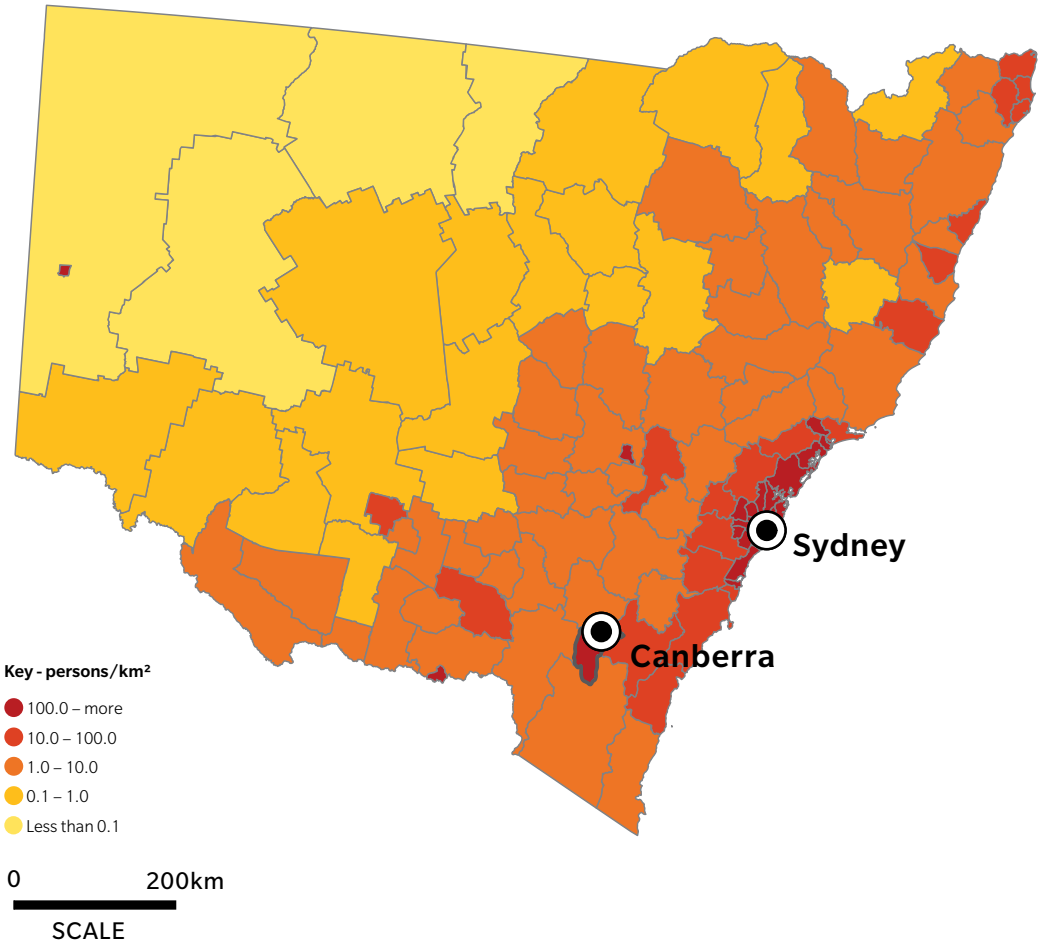

URF RESCUE
DHL
Holden
SURF RESCUE
DHL

NEW SOUTH WALES POPULATION

Figure 1

NEW SOUTH WALES POPULATION DENSITY PER LOCAL GOVERNMENT AREA (LGA)

This map shows the estimated New South Wales population density per LGA at June 2020. Most LGAs with a population density higher than 100 persons per square kilometre are located on the coastal fringe.



COASTAL PARTICIPATION

2020
2.8
VISITS/MONTH

3.8M
COASTAL ACTIVITY PARTICIPANTS

2.2
HOURS/ VISIT

4.7M
NSW ADULTS VISITED THE COAST IN 2019/20

COASTAL PARTICIPATION SUMMARY

Australians love the coast. To better understand how the coast is used, the annual National Coastal Safety Survey (NCSS) explores coastal participation and behaviours. In the last year, there were 4.7 million adult New South Wales residents who visited the coast, on average 2.8 times each month. This equates to over 150 million individual adult visitations to the coast last year. There were 3.8 million coastal activity participants, with swimming and wading the most popular activity (53%), followed by boating (14%), land-based fishing (12%), and snorkelling (11%).

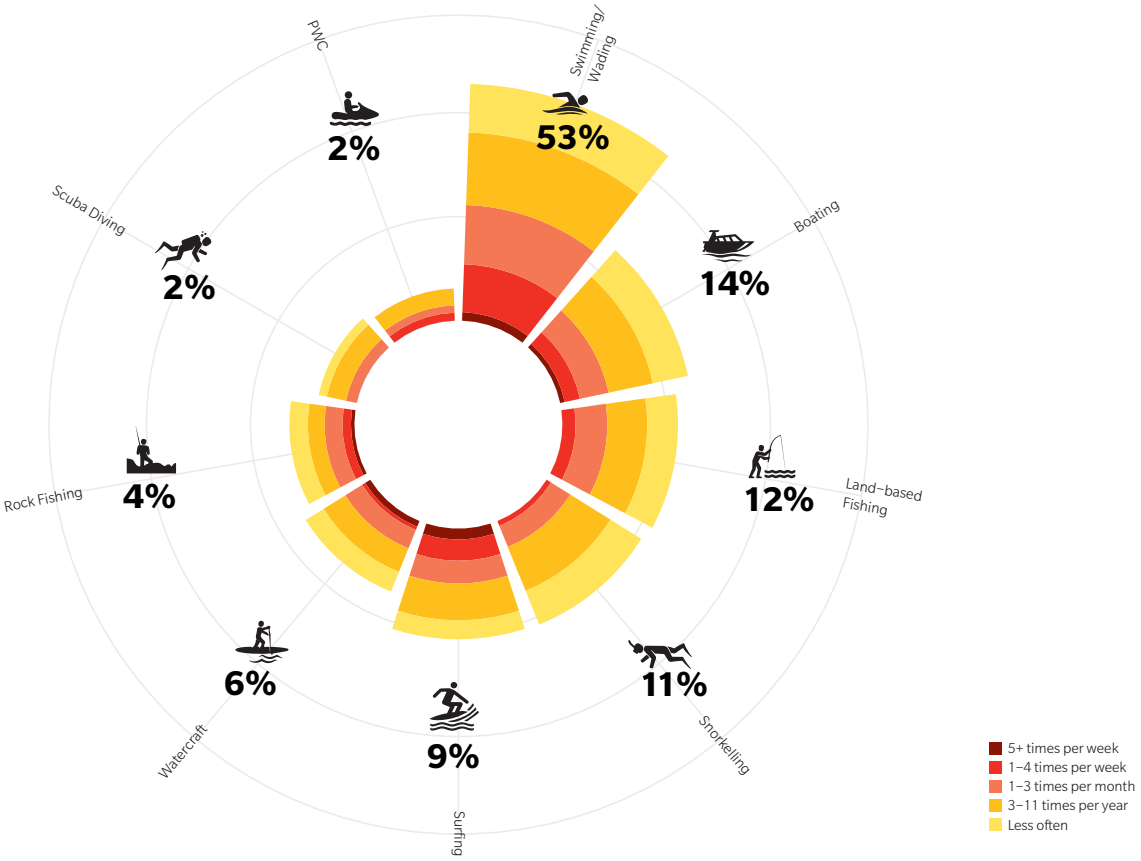


Figure 2

NCSS2020: COASTAL VISITATION BY ACTIVITY

Question posed to survey participants: Which of the following coastal activities have you participated in during the past 12 months and how often do you participate in these activities? *NB: Data has been transformed for visualisation.*

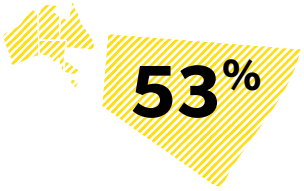
ACTIVITY PARTICIPATION

NCSS2020 PARTICIPATION BY FREQUENCY AND EXPERTISE

Coastal participation differs by activity, frequency and expertise. These pages explore the proportion of the New South Wales population that participates in each activity, how many hours are spent annually by frequent and occasional activity participants, and the self-reported expertise of New South Wales participants.

SWIMMING/WADING

PARTICIPATION



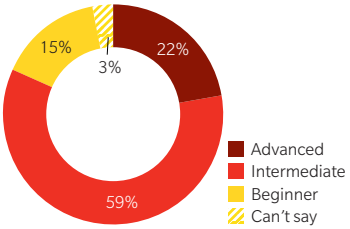
FREQUENCY

39% FREQUENT

61% OCCASIONAL

TOTAL 3.2M
FREQUENT 1.2M

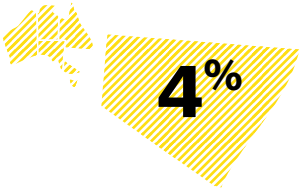
EXPERTISE



52%

SWIMMERS/WADERS ALWAYS LOOK FOR RIPS BEFORE ENTERING THE WATER

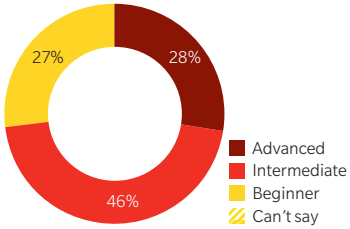
ROCK FISHING



44% FREQUENT

56% OCCASIONAL

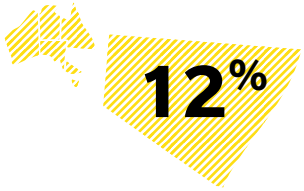
TOTAL 0.3M
FREQUENT 0.1M



60%

ROCK FISHERS CONSIDER ROCK FISHING EXTREMELY OR VERY HAZARDOUS

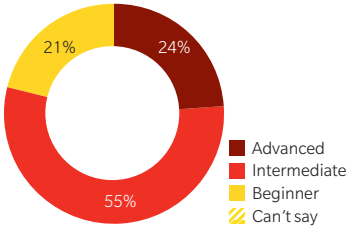
LAND-BASED FISHING



33% FREQUENT

67% OCCASIONAL

TOTAL 0.7M
FREQUENT 0.2M



24%

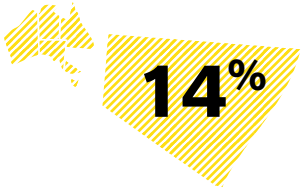
LAND-BASED FISHERS CONSIDER THEMSELVES ADVANCED FISHERS

PARTICIPATION

FREQUENCY

EXPERTISE

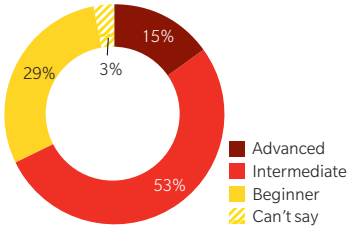
BOATING



27% FREQUENT

73% OCCASIONAL

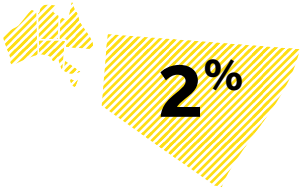
TOTAL 0.9M
FREQUENT 0.2M



64%

BOATERS ENSURE ALL PASSENGERS WEAR A LIFEJACKET

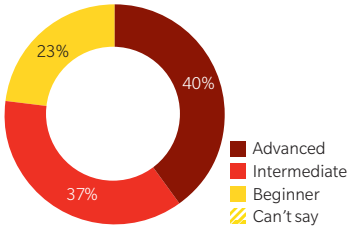
PWC



42% FREQUENT

58% OCCASIONAL

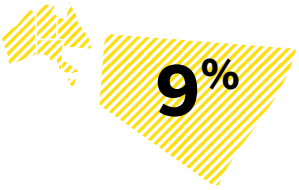
TOTAL 0.1M
FREQUENT 58K



30%

PWC USERS BELIEVE THEY ARE EXPERIENCED ENOUGH TO TAKE SOME RISKS

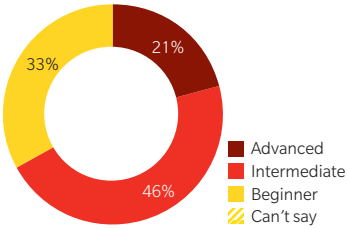
SURFING



42% FREQUENT

58% OCCASIONAL

TOTAL 0.6M
FREQUENT 0.2M



54%

SURFERS CONSIDER SURFING 'SOMEWHAT HAZARDOUS'

ACTIVITY PARTICIPATION

NCSS2020 PARTICIPATION BY FREQUENCY AND EXPERTISE

PARTICIPATION

FREQUENCY

EXPERTISE

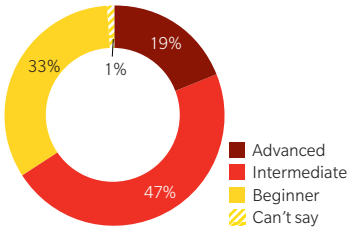
SNORKELLING

11%

18% FREQUENT

82% OCCASIONAL

TOTAL 0.7M
FREQUENT 0.1M



34%

CONSIDER SNORKELLING NOT VERY HAZARDOUS

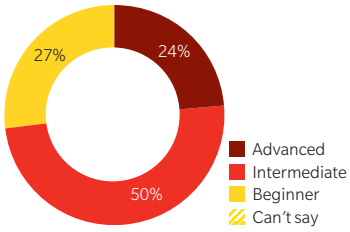
SCUBA DIVING

2%

26% FREQUENT

74% OCCASIONAL

TOTAL 0.2M
FREQUENT 40K



18%

SCUBA DIVERS DIVE AT LEAST ONCE A MONTH

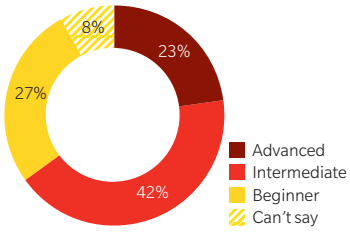
WATERCRAFT

6%

32% FREQUENT

68% OCCASIONAL

TOTAL 0.3M
FREQUENT 0.1M



38%

WATERCRAFT USERS BELIEVE THEY ARE EXPERIENCED ENOUGH TO TAKE SOME RISKS

ACTIVITY VISITATION

PARTICIPATION FREQUENCY

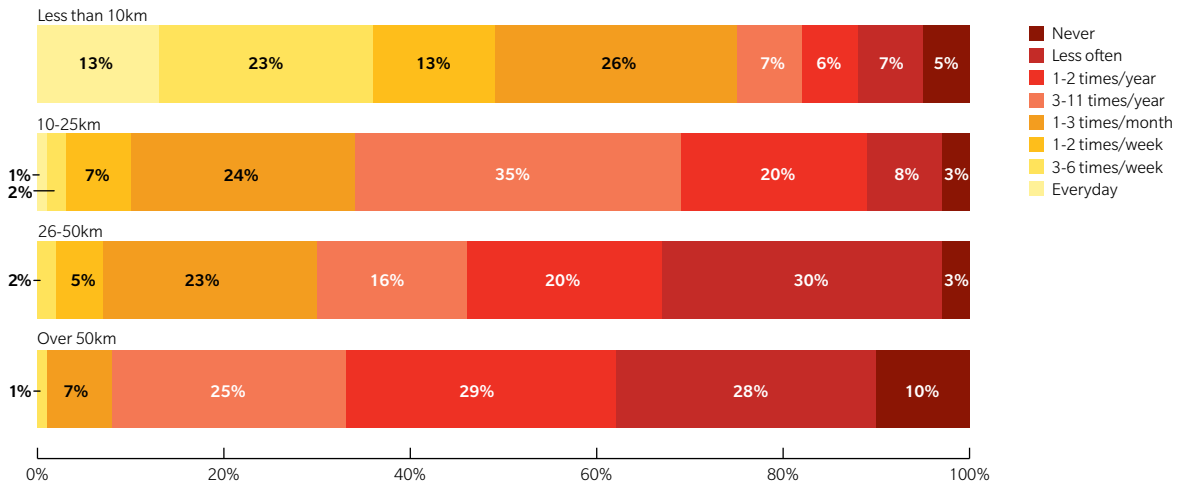
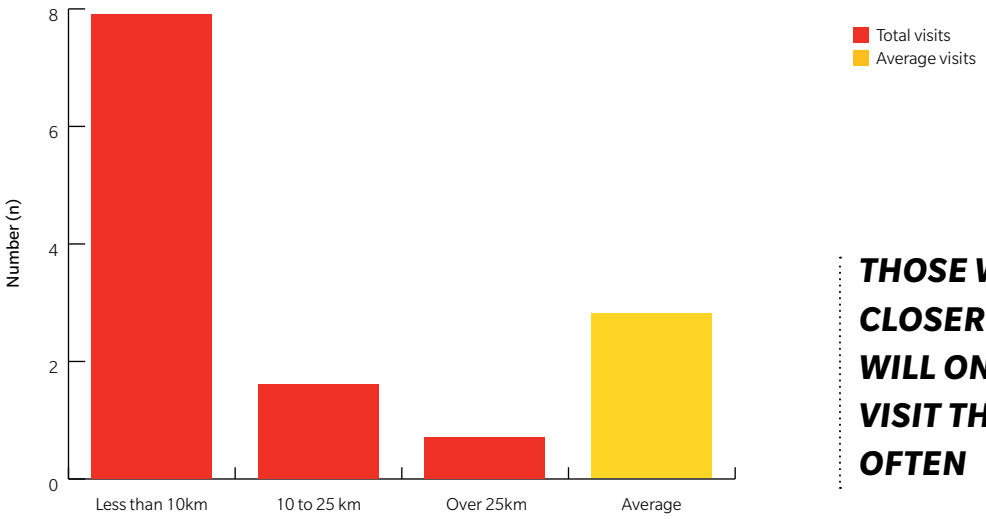


Figure 3

NCSS2020: FREQUENCY OF VISITS BY DISTANCE FROM THE COAST

People who live near the coast visit the coast more frequently than those who live further away. Forty-nine percent of people who live less than ten kilometres from the coast visit at least once a week, while only one percent of those who live more than fifty kilometres away visit as frequently.



THOSE WHO LIVE CLOSER TO THE COAST WILL ON AVERAGE VISIT THE COAST MORE OFTEN

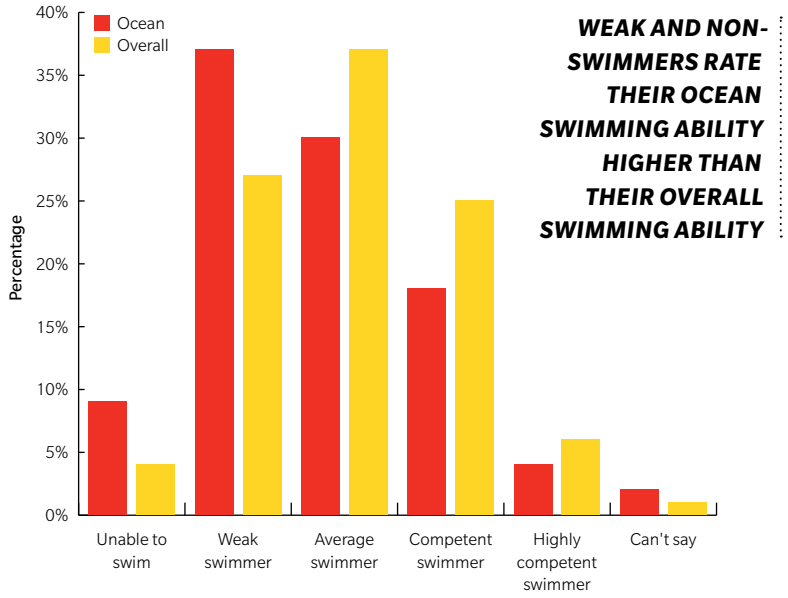
Figure 4

NCSS2020: AVERAGE NUMBER OF MONTHLY VISITS TO THE COAST BY DISTANCE FROM THE COAST

On average, people who live within ten kilometres of the coast visit the coast significantly more than those who live further away.

SWIMMING ABILITY

CONFIDENCE IN COASTAL ENVIRONMENTS



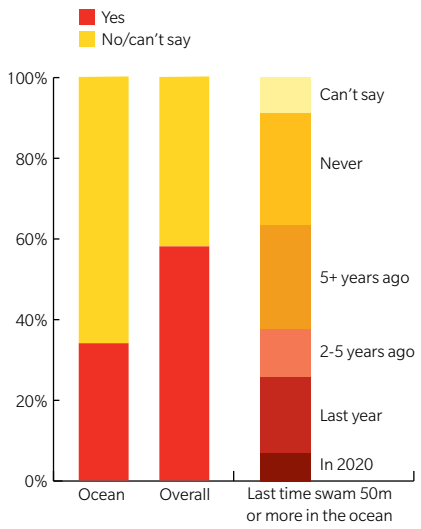


Figure 5

NCSS2020: ABILITY TO SWIM IN THE OCEAN COMPARED TO OVERALL SWIMMING ABILITY

Swimming ability in the ocean is rated lower than overall swimming ability for average, competent and highly competent swimmers, but higher for weak and non-swimmers.

Figure 6

NCSS2020: ABILITY TO SWIM 50M IN THE OCEAN OR OTHER ENVIRONMENT WITHOUT STOPPING OR TOUCHING THE BOTTOM; LAST TIME SURVEY PARTICIPANTS SWAM 50M OR MORE IN THE OCEAN

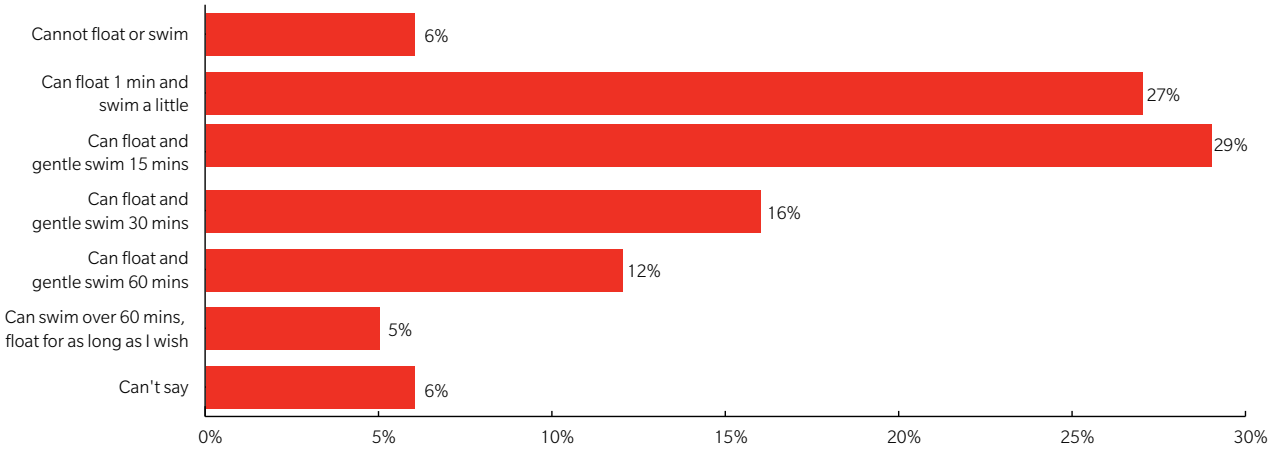


Figure 7

NCSS2020: UNAIDED SWIMMING ABILITY IN COASTAL AREAS

Thirty-three percent of people say they cannot swim or float, or can only swim or float comfortably for 1 minute.

COASTAL SAFETY

HAZARD PERCEPTION

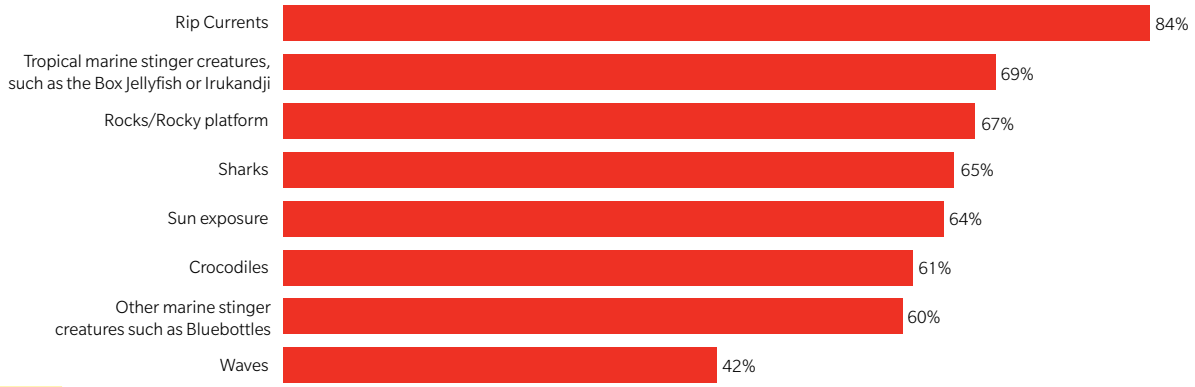


Figure 8

NCSS2020: COASTAL HAZARDS RATED EXTREMELY OR VERY HAZARDOUS

Rip currents remain the coastal hazard rated the most hazardous by residents of New South Wales.

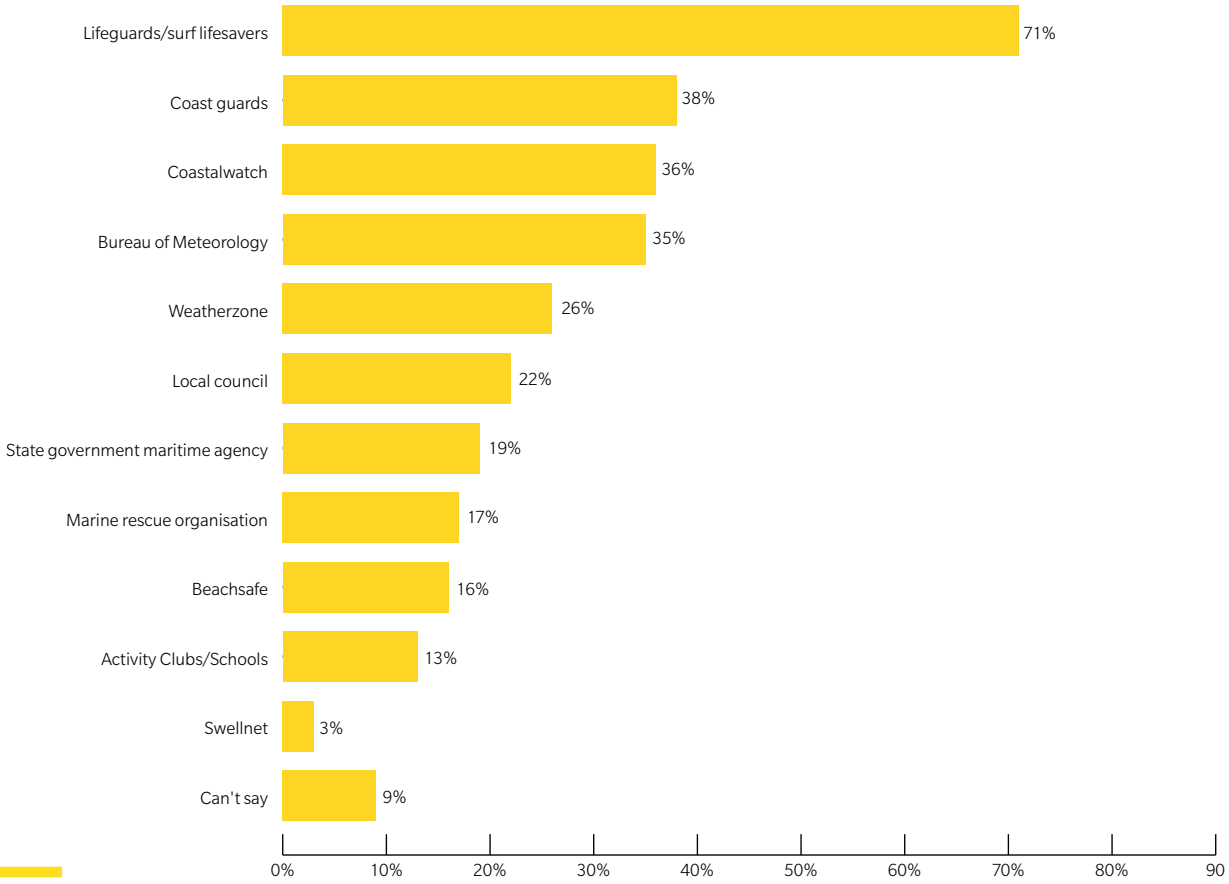


Figure 9

NCSS2020: WHICH AUTHORITY WOULD YOU TURN TO FOR COASTAL SAFETY INFORMATION?

Lifeguards and surf lifesavers are the most relied upon source for coastal safety information.

COASTAL SAFETY

STAYING SAFE AND TAKING RISKS

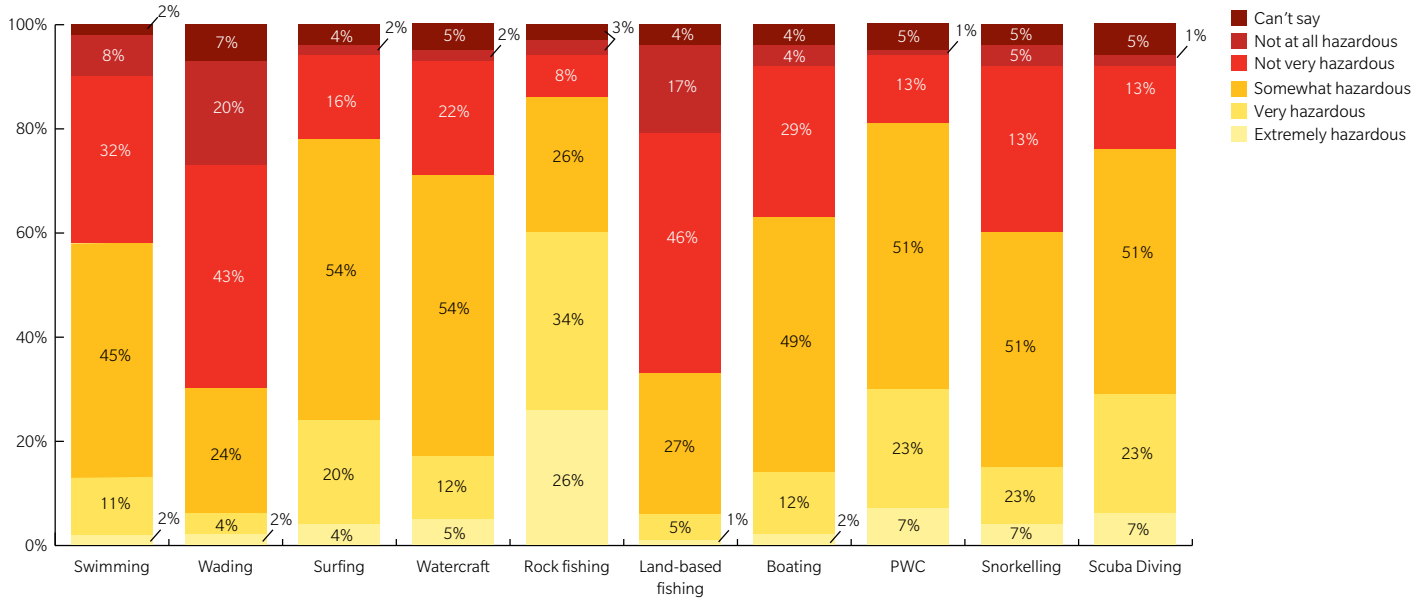


Figure 10

NCSS2020: HAZARD PERCEPTION OF COASTAL ACTIVITIES

Respondents were asked how hazardous they considered each coastal activity.

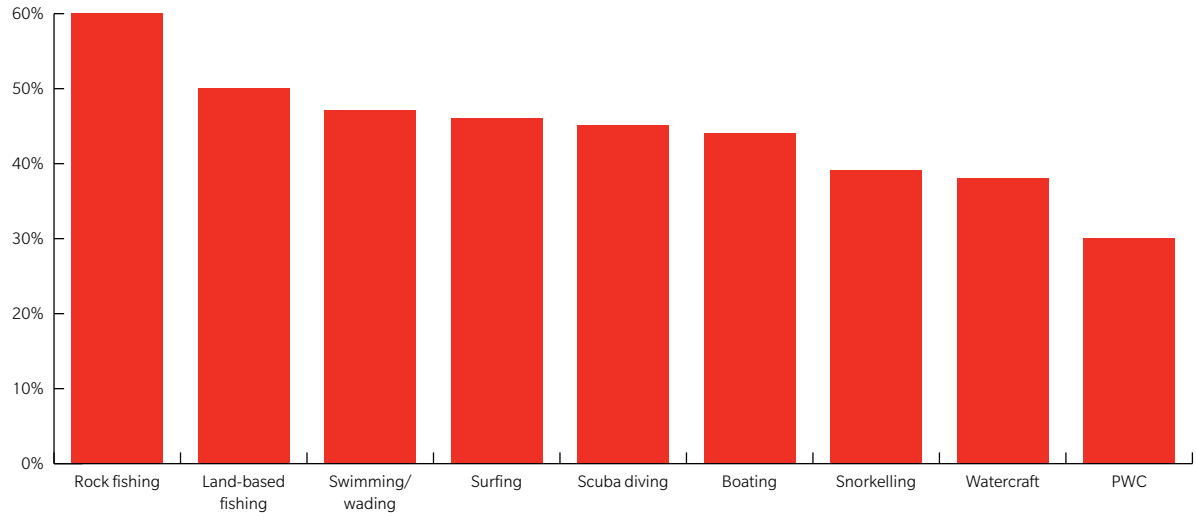


Figure 11

NCSS2020: PARTICIPANTS WHO BELIEVE THEY ARE EXPERIENCED ENOUGH TO TAKE SOME RISKS IN THEIR COASTAL ACTIVITY

Many rock fishers and land-based fishers consider themselves experienced enough to take some risks.

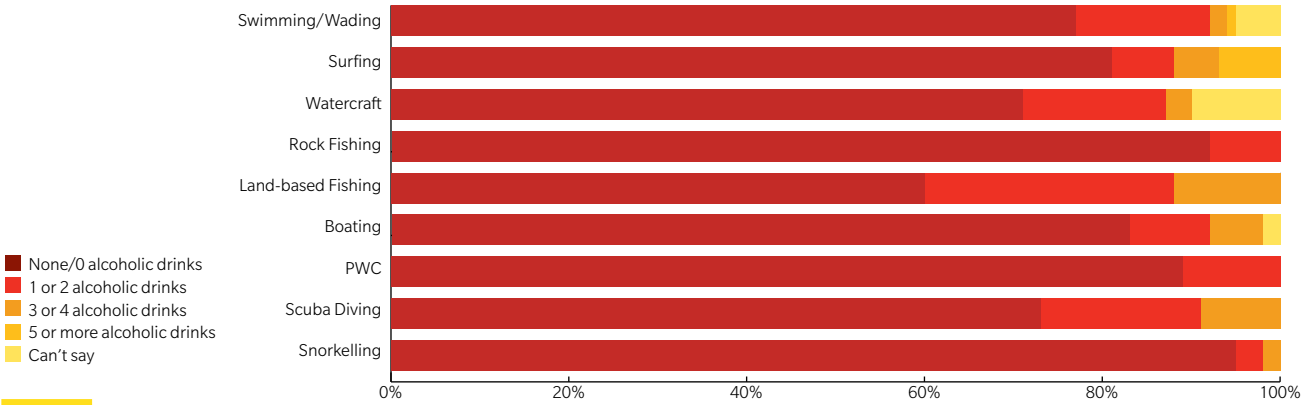


Figure 12

NCSS2020: HOW MANY STANDARD DRINKS ARE REASONABLE TO CONSUME BEFORE UNDERTAKING A COASTAL ACTIVITY?

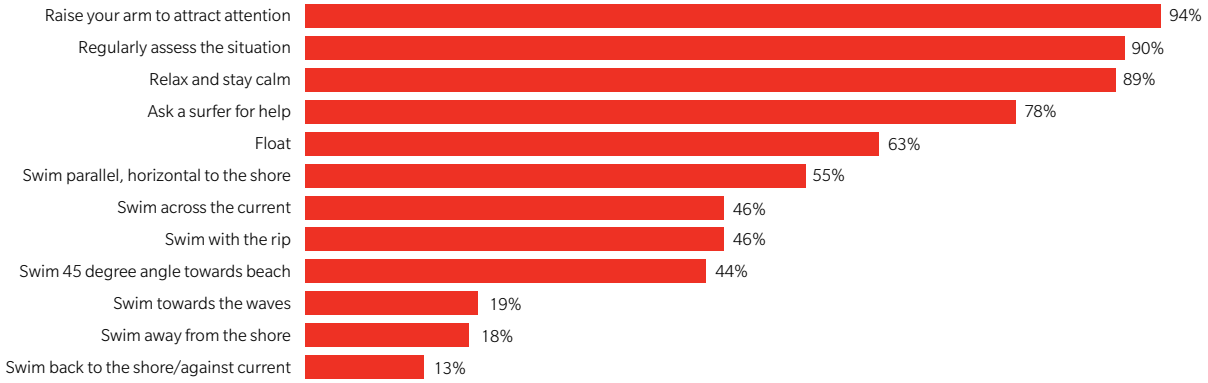


Figure 13

NCSS2020: PROPORTION OF SURVEY PARTICIPANTS WHO AGREED THAT THE ABOVE RESPONSES WERE A GOOD THING TO DO IF CAUGHT IN A RIP CURRENT

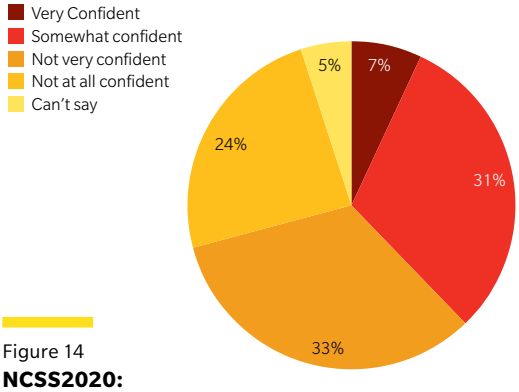


Figure 14

NCSS2020: HOW CONFIDENT ARE YOU THAT YOU COULD IDENTIFY A RIP?

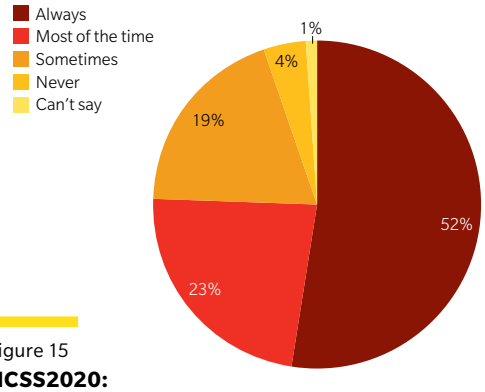


Figure 15

NCSS2020: HOW OFTEN DO YOU LOOK FOR THE PRESENCE OF RIP CURRENTS IN THE AREA PRIOR TO ENTERING THE WATER?

COASTAL INSIGHTS: SAFER COASTS FOR THE FUTURE

CoastSafe NSW, a newly established research unit within Surf Life Saving NSW, is developing innovative risk assessment methodologies and delivering a new series of coastal risk assessments to assist in preventing drowning and injury on NSW beaches, shore platforms, and coastal waterways.

This project is called *Coastal insights: safer coasts for the future* and follows an earlier series of coastal risk assessments known as *Project Blueprint*. The project is being funded by the NSW Government (Resilience NSW) and will be delivered by June 2023.

The coastal risk assessments aim to inform Surf Life Saving NSW, Surf Life Saving Branches, and Surf Life Saving Clubs, as well as Local Government Areas, NSW National Parks and Wildlife Service, and other water safety stakeholders of the risk of drowning and injury along the coastline. The project will then provide frameworks and guidance on strategies that could be implemented to reduce the risk of future incidents. This may include recommendations on lifeguarding services, surf lifesaving services, support operations, education programs and other water safety initiatives.

Five specific project objectives for *Coastal insights: safer coasts for the future* have been defined. They are as follows:

1. Quantify the influence of beach morphology and hydrodynamics, volume and frequency of water use, and social risk factors on the risk of drowning and injury.
2. Utilising the findings from the first objective, develop a number of models and frameworks to guide evidence-based decision making by Local Government Areas, NSW National Parks and Wildlife Service, Surf Life Saving NSW, and other water safety stakeholders.
3. Provide the findings and modelled recommendations to water safety stakeholders; this will be through a spatial information management system and coastal risk assessment reports.
4. Review the existing data collected by lifeguarding services, surf lifesaving services and emergency services to identify inconsistencies and areas for improvement. Where required, improve the data that is collected, and implement new methodologies and technologies that could assist.
5. Develop stronger relationships and collaboration with water safety stakeholders throughout NSW.

Coastal insights: safer coasts for the future requires a strong foundation in scientific research principles to ensure that the risk of drowning and injury can be accurately and consistently assessed across New South Wales and that the recommended safety interventions are fit-for-purpose. To achieve this, we are investing considerable time in addressing the first objective to better understand the different factors that influence risk in the coastal environment.

Firstly, we aim to better understand the influence of beach morphology and hydrodynamics on risk. As such, we will investigate trends and relationships between environmental factors and the occurrence of fatal and non-fatal incidents.

Secondly, we aim to better understand the population's exposure to drowning and injury by analysing and spatially mapping beach and water use patterns throughout the year and across the hours of the day. Data will be captured using on-site observations, as well as a range of technologies that are currently being trialled. This includes high-resolution aerial imagery, monitoring cameras, and Unmanned Aerial Vehicles.

Thirdly, we aim to better understand the hazard awareness, behaviours, and competence of different groups using the water in different ways. This will be informed by discussions with on-site personnel, surveys of beach and water users and analysis of fatal and non-fatal incidents. The results of this research will feed directly into the second objective, the development of models and frameworks to guide evidence-based decision making.

CoastSafe NSW has been engaging with Local Government Areas, NSW National Parks and Wildlife Service, Surf Life Saving Branches and other water safety stakeholders to discuss the project and ensure the outcomes will be fit-for-purpose. We are also reviewing existing data sources and identifying future data needs to ensure relevant information can be fed into the innovative risk assessment models and implementation frameworks that will be developed.

CoastSafe NSW looks forward to continuing to engage and collaborate with water safety stakeholders as *Coastal insights: safer coasts for the future* progresses.

The research is being undertaken along the length of the New South Wales coastline

Water safety stakeholders will be provided with the findings and modelled recommendations in a spatial information management system

The research aims to better understand the factors contributing to drowning and injury

The research aims to review the existing data and identify inconsistencies and areas for improvement

A number of models and frameworks will be developed to guide evidence-based decision making

The project aims to strengthen relationships and collaboration with water safety stakeholders.

CAPABILITY

SECTION TWO

3,178
RESCUES

20,099
PROFICIENT MEMBERS

555,672
VOLUNTEER PATROL HOURS

11
Branches

129
Clubs

89
ALS services


PFD

CAPABILITY

Surf Life Saving NSW enables communities and visitors throughout the state to enjoy our coastline by helping to manage their safety. This is achieved through the provision of Volunteer Surf Life Saving, the Australian Lifeguard Service, and Support Operations.

VOLUNTEER SURF LIFE SAVING

Volunteer surf lifesavers from 129 Surf Life Saving Clubs (across 11 Surf Life Saving Branches) manage the safety of members of the public at patrolled beaches from Fingal Head to Pambula Beach. Between Saturday 28 September 2019 and Sunday 22 March 2020, 20,099 surf lifesavers amassed 555,672 volunteer patrol hours on weekends and public holidays (although the season was shorter than usual due to COVID-19).

Surf lifesavers actively prevented members of the public getting into difficulty in and around the red and yellow flags through preventative actions (193,965), while also rescuing 2,526 people that got into difficulty. They treated 6,006 people for injuries or medical complaints.

Rescue boards and rescue tubes continued to prove to be effective rescue equipment, particularly where incidents occurred close to shore and/or in and around the red and yellow flags. All-terrain vehicles (ATVs) and inflatable rescue boats (IRBs) were used to provide roving surveillance alongshore and assist in the response to incidents further from the red and yellow flags, as well as difficult rescues, i.e. incidents involving multiple patients.

AUSTRALIAN LIFEGUARD SERVICE

The Australian Lifeguard Service manages the safety of beachgoers in and around the red and yellow flags at 89 beaches on behalf of 14 Local Government Areas, NSW National Parks and Wildlife Service, and one resort.

20,099 SURF LIFESAVERS AMASSED 555,672 VOLUNTEER PATROL HOURS ON WEEKENDS AND PUBLIC HOLIDAYS

Lifeguarding services were delivered by 368 lifeguards over the 2019/20 season. They provided over 110,000 patrol hours, which ranged from long-term services provided throughout the year at some sites, to shorter services provided only over the summer school holidays at other sites. These lifeguards performed 555,290 preventative actions, rescued 652 people, and treated 5,948 people for injuries or medical complaints.

SUPPORT OPERATIONS

Surf Life Saving NSW provides services beyond the red and yellow flags to help manage the safety of the wider community.

Rescue watercraft, jet rescue boats, and offshore rescue boat

Rescue watercraft (RWC) operate within and beyond the surf zone and provide surveillance along the shoreline at both patrolled and unpatrolled beaches. These assets provide critical support to surf lifesavers and lifeguards and can respond effectively to time-critical incidents outside the red and yellow flags.

In addition, jet rescue boats operate out of Ballina and Kiama, and an offshore rescue boat operates in Sydney. These vessels typically provide surveillance and response to those who may get into difficulty in and around the mouths of rivers and estuaries, as well as those using harbours and areas beyond the surf zone.

Australian UAV Service and Westpac Life Saver Rescue Helicopters

Over the 2019/20 season, the Australian UAV Service operated Unmanned Aerial Vehicles (UAVs) at 18 beaches as part of the NSW Department of Primary Industries Shark Management Strategy. This program was implemented to help reduce the interaction between people and sharks, and the UAVs were also used to help identify rip currents and water users at risk of getting into difficulty. In addition, UAVs were flown by volunteer surf lifesavers at five beaches as part of the Surf Life Saving NSW Membership UAV Program. A further 18 mobile UAVs were made available to Duty Officers to assist with search and rescue operations.

The Westpac Life Saver Rescue Helicopters also provided surveillance and response to water-based incidents in New South Wales. The rescue helicopters operate out of Sydney and the South Coast.

Surf Emergency Response System

The Surf Emergency Response System, which is managed by the State Operations Centre, is a framework for the notification and tasking of surf lifesavers and lifeguards to water-based incidents. The system aims to reduce coastal and ocean drowning deaths by increasing the efficiency and effectiveness of the response, and helps ensure that there is clear communication and effective coordination between surf lifesavers, lifeguards, and other emergency services. The Surf Emergency Response System is led by a team of State Duty Officers.

The capability of the Surf Emergency Response System was further enhanced by a recent upgrade to the State Operations Centre, as well as the provision of emergency response vehicles and rescue watercraft. These initiatives were funded by the NSW Government.

129

SURF LIFE SAVING CLUBS

89

ALS PATROLLED BEACHES

MEMBERSHIP CAPACITY

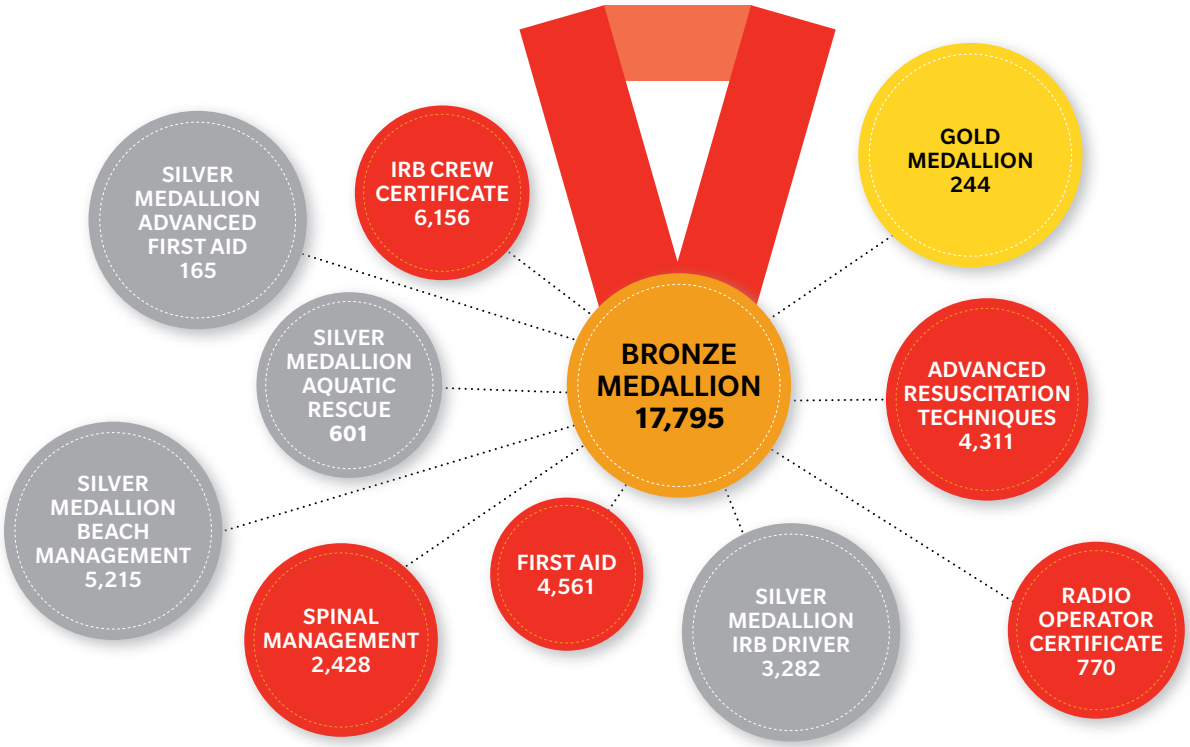
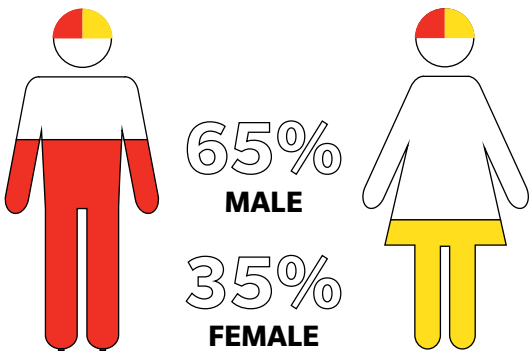


Figure 16

2019/20: QUALIFICATIONS HELD BY BRONZE MEDALLION HOLDERS

17,795 proficient Bronze Medallion holders are also proficient in ten other lifesaving awards, totalling over 27,000 additional lifesaving qualifications. This highlights the large amount of additional volunteer training our surf lifesavers undertake to ensure they are highly skilled first responders.

2019/20: PATROLLING SURF LIFESAVERS



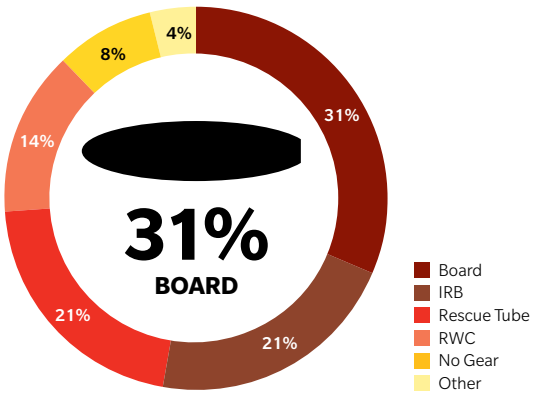


Figure 17

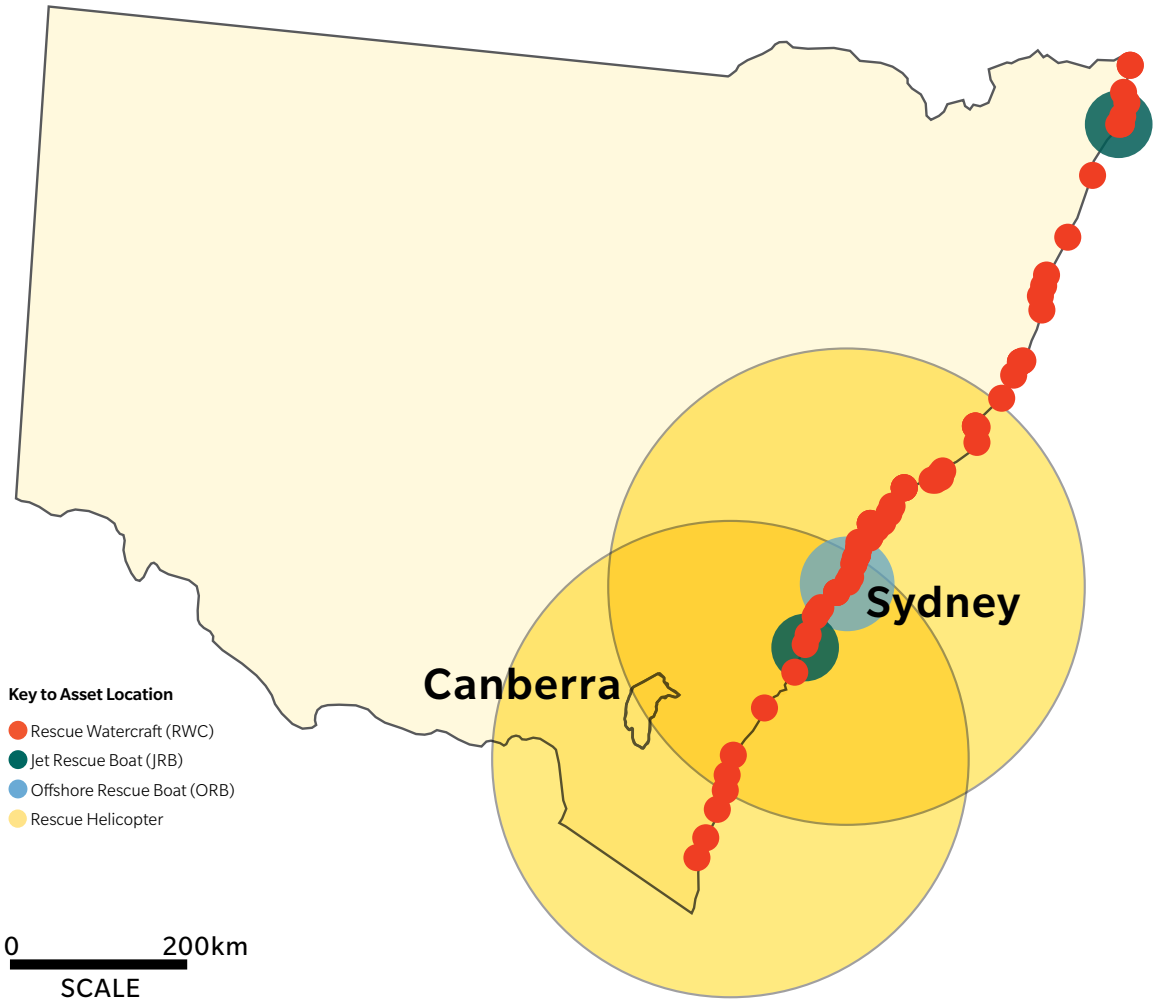
2019/20: EQUIPMENT USE IN RESCUES

ASSET CAPABILITY

Figure 18

2019/20: SLS MAJOR ASSET LOCATIONS AND SERVICE RANGES

SLSNSW maintains a fleet of 73 rescue watercraft (RWC), two jet rescue boats (JRB), and one offshore rescue boat (ORB). SLSA maintains two rescue helicopters.



SURF EMERGENCY RESPONSE SYSTEM

The Surf Emergency Response System (SERS) was activated 599 times between 1 July 2019 and 30 June 2020, which is slightly down on the five-year average of 617. The reduction may be attributed to the bushfire emergency and the subsequent decrease in coastal visitation over 2019/20 when compared to previous years. Changes to the use of the coastline during the COVID-19 pandemic may also have influenced these statistics.

As with previous years, SERS received the largest proportion of activations over summer (37%) and responded to most incidents during the afternoon (58%). SERS most frequently responded to swimmers in difficulty (26%), followed by members of the public using watercraft (20%), and boaters in distress (18%). These statistics are similar to the five-year averages. These activations resulted in 219 lives being saved.

SERS also demonstrated its value in larger-scale incidents, including the bushfire emergency on the NSW coastline and the evacuation of at-risk residents during flood events. The State Operations Centre, Duty Officers, some Surf Life Saving Branches, a number of Surf Life Saving Clubs and the Australian Lifeguard Service provided valuable assistance and service to the community during these difficult times.

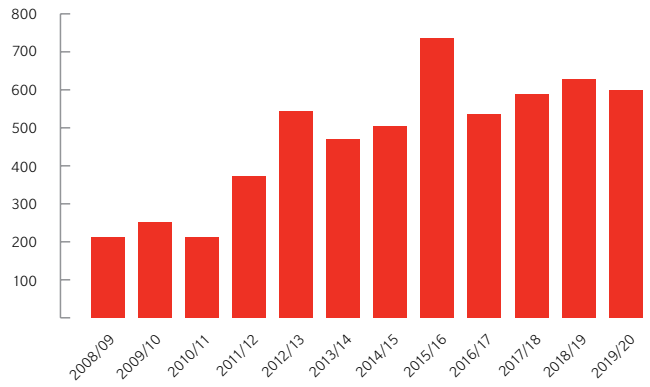


Figure 19

2008-2020: NUMBER OF SERS ACTIVATIONS

The average number of SERS activations each season is 471; the average in the last five years is 617.

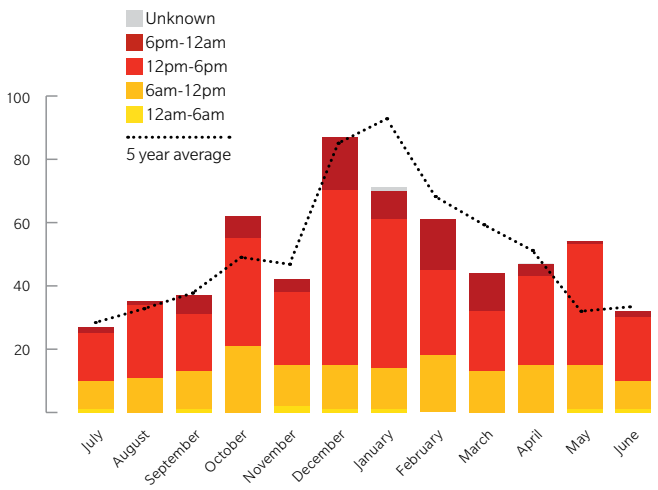


Figure 20

2019/20: NUMBER OF SERS ACTIVATIONS BY MONTH AND TIME OF DAY

This season there was a slight reduction in the number of SERS activations that occurred over summer when compared to the five-year average.

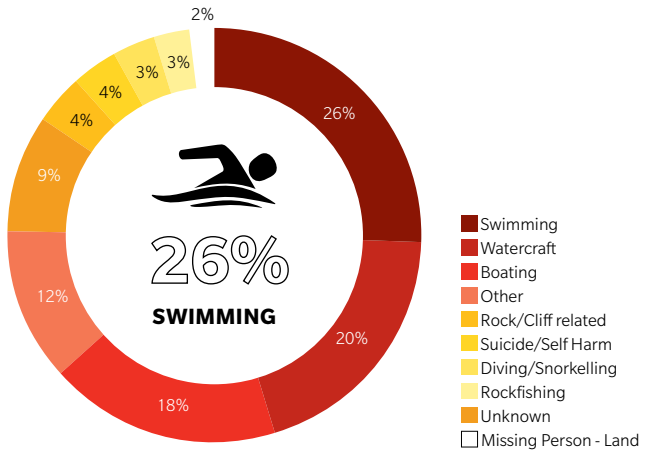


Figure 21

2019/20: NUMBER OF SERS ACTIVATIONS BY ACTIVITY

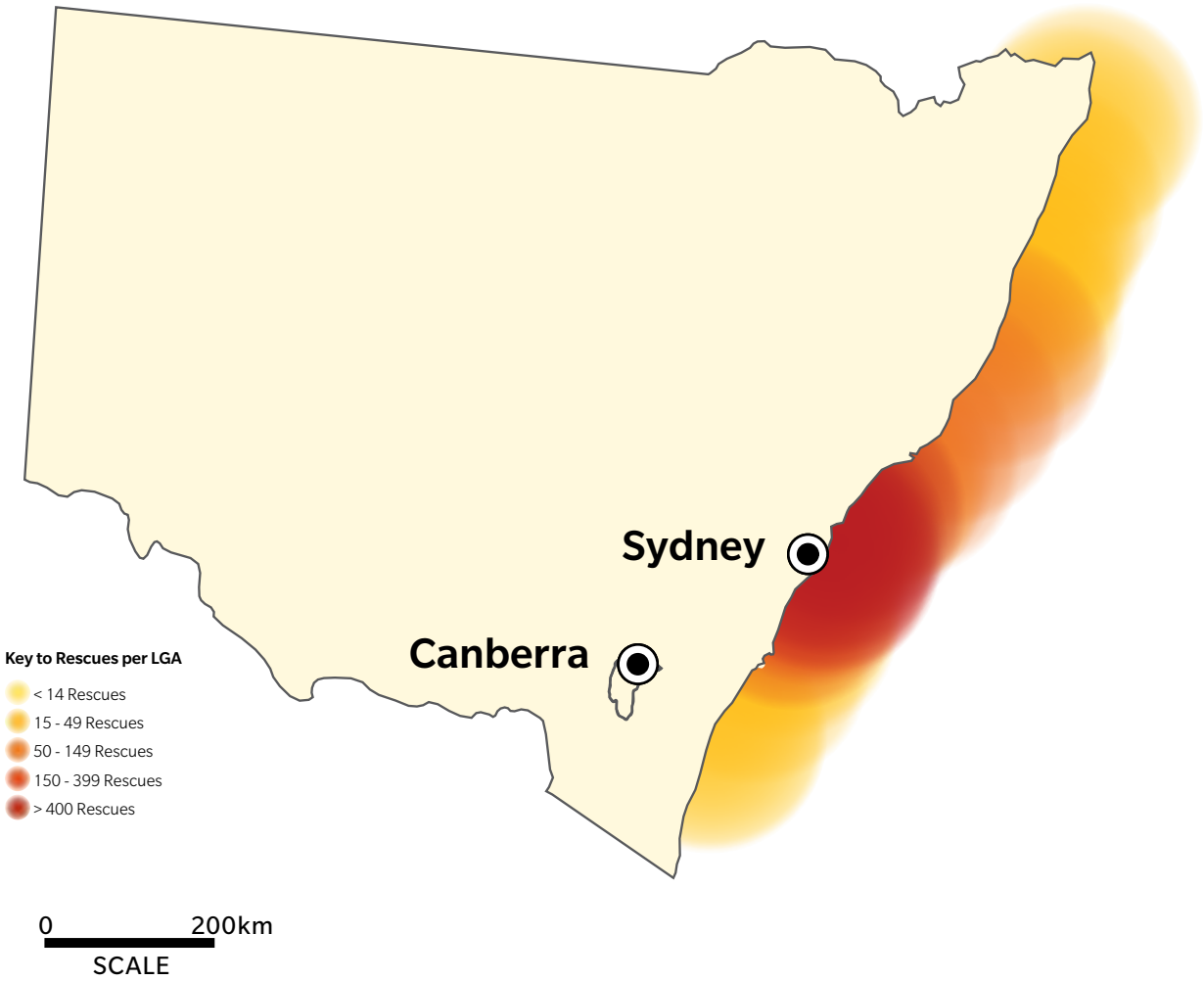
Swimming, watercraft and boating were the top three activities that required SERS activations.

RESCUES

Figure 22

2019/20: RESCUES PER LOCAL GOVERNMENT AREA (LGA)

Surf lifesavers and lifeguards performed 3,178 rescues across New South Wales.

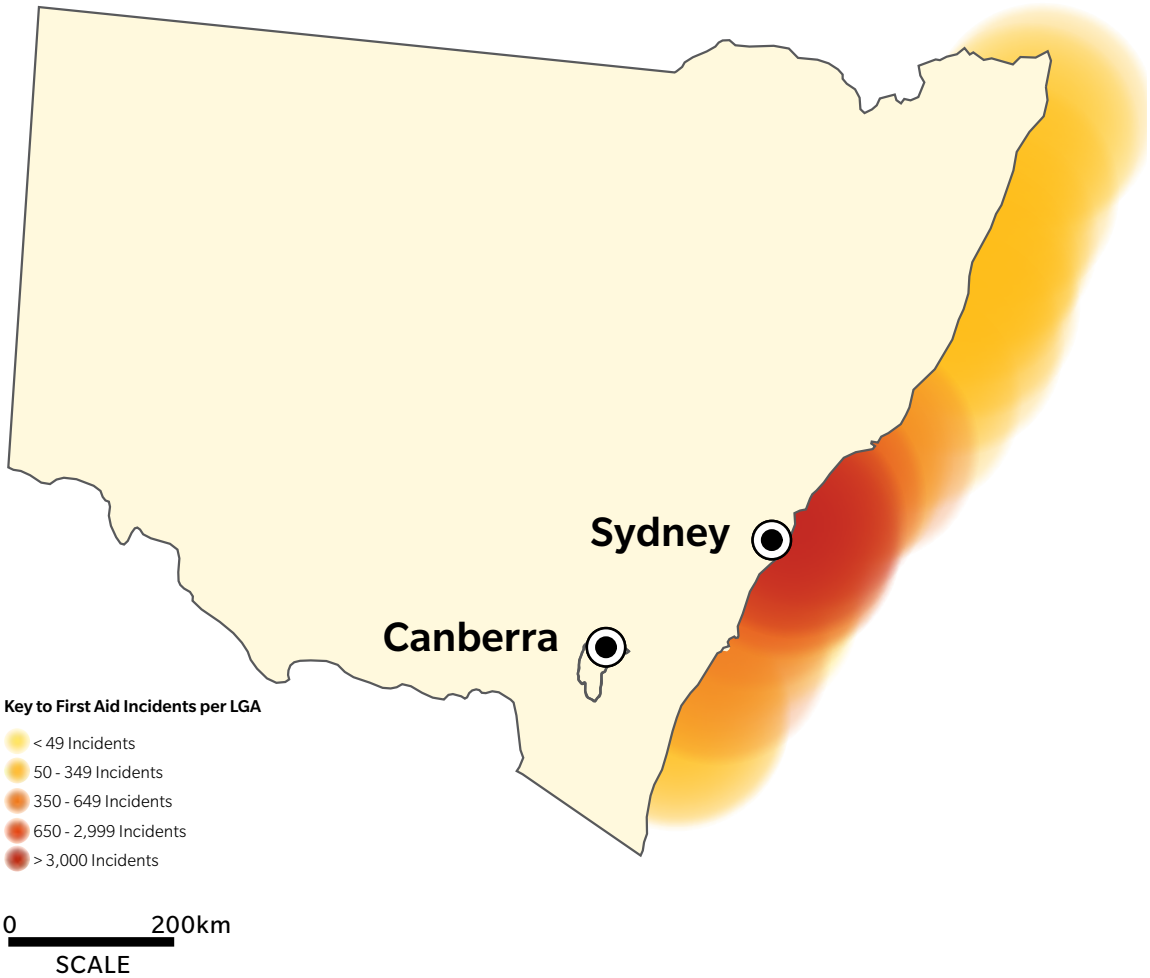


FIRST AIDS

Figure 23

2019/20: FIRST AIDS PER LOCAL GOVERNMENT AREA (LGA)

Surf lifesavers and lifeguards performed 11,954 first aid treatments across New South Wales.

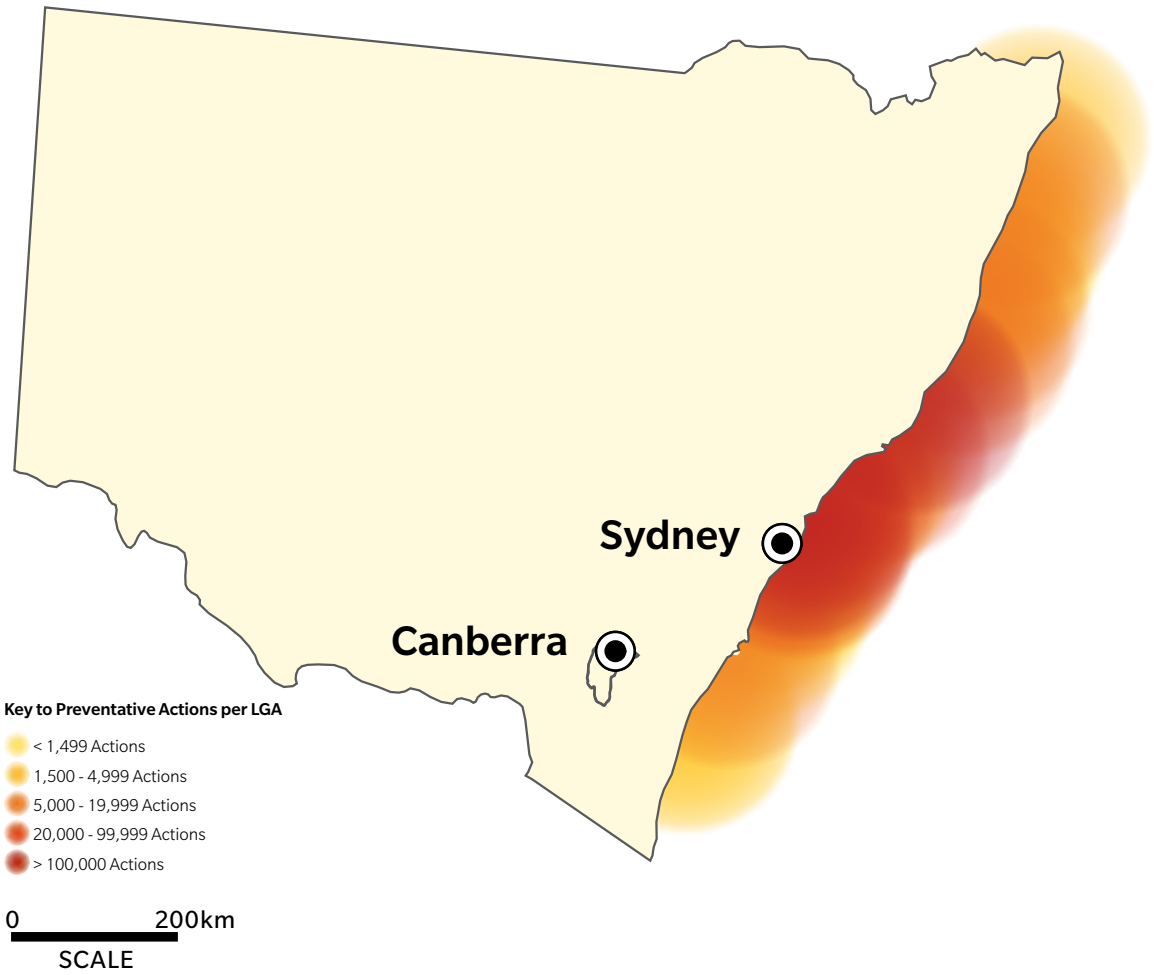


PREVENTATIVE ACTIONS

Figure 24

2019/20: PREVENTATIVE ACTIONS PER LOCAL GOVERNMENT AREA (LGA)

Surf lifesavers and lifeguards performed 749,255 preventative actions across New South Wales.



AUSTRALIAN UAV SERVICE

The Australian Unmanned Aerial Vehicle Service (AUAVS) partners with the NSW Government Department of Primary Industries (DPI) to deliver the UAV (Unmanned Aerial Vehicle) Shark Surveillance Program.

Unmanned Aerial Vehicle services were delivered across 18 locations from Kingscliff Beach in northern NSW to Pambula Beach in the south. SLSNSW also delivered a volunteer-based UAV program, through which UAVs kept an eye on beachgoers at five Surf Life Saving Clubs. UAVs were used to help identify rip currents and to watch for swimmers and surfers in difficulty. A further 18 mobile UAVs were made available to Duty Officers to assist with search and rescue operations along the NSW coastline (as part of the Surf Emergency Response System).

Throughout the spring, summer and autumn of the 2019/20 season, there were over 16,800 flights flown, totalling over 3,700 hours of flight time. These flights were primarily focussed on shark surveillance, identification and video capture. In addition to surveillance, a range of other uses for UAV technology continue to be developed.

During the 2019/20 season there were over 250 sharks sighted by our UAVs, which resulted in 90 temporary beach closures. Feedback from beach users and lifeguard services highlighted the effectiveness of UAV technology in facilitating more responsive beach closures and re-openings. The surveillance capability of our UAVs allows beaches to be re-opened as soon as a UAV pilot confirms that any dangerous shark species have left the area.

Other uses of UAVs include the identification of rip currents and other beach hazards, the surveillance of swimmers away from patrolled locations and beach assessment to assist in optimising the allocation of patrol assets. AUAVS also continues to develop methods for data collection and processing, whereby data can be used by SLSNSW and local governments to facilitate the safe and efficient management of Surf Life Saving assets.

Our UAV technology is evolving quickly and an exciting development during the 2019/20 season was the introduction of artificial intelligence (AI) software to allow the real-time identification of shark species. This technology was trialled in partnership with the DPI and Macquarie University.

During the 2019/20 season, our team of over 350 UAV operators and UAV pilots, who fulfill volunteer and paid roles throughout the state, have approached their operations with professionalism and commitment. We have continued year-round professional development of these Surf Life Saving resources and anticipate delivering an extended service with the NSW Government (DPI) in the 2020/21 season.

NSW GOVERNMENT DEPARTMENT OF PRIMARY INDUSTRIES UAV SURVEILLANCE PROGRAM:

Kingscliff Beach
Main Beach, Byron Bay
Lennox Head
Sharpes Beach, Ballina
Shelly Beach, Ballina
Lighthouse Beach, Ballina
Airforce Beach, Ballina
Main Beach, Yamba
Crescent Head
Flynns Beach, Port Macquarie
Main Beach, Forster
Birubi Point
Redhead Beach
Surf Beach, Kiama
South Mollymook Beach
Malua Bay, Batemans Bay
Tathra Beach
Pambula Beach

SURF LIFE SAVING VOLUNTEER UAV PROGRAM:

Far North Coast Duty Officer (North)
Far North Coast Duty Officer (South)
North Coast Duty Officer
Mid North Coast Duty Officer
Lower North Coast Duty Officer
Hunter Duty Officer
Central Coast Duty Officer
Sydney Northern Beaches Duty Officer 1
Sydney Northern Beaches Duty Officer 2
Newport SLSC
Mona Vale SLSC
Warriewood SLSC
Long Reef SLSC
Sydney RCO 1 (North)
Sydney Duty Officer 2 (North)
Sydney Duty Officer 3 (South)
Illawarra Duty Officer
Helensburgh - Stanwell Park SLSC
South Coast Duty Officer
Far South Coast Duty Officer (North)
Far South Coast Duty Officer (Central)
Far South Coast Duty Officer (South)
NSW State Mobile Service

16,821
FLIGHTS

250
SHARK SIGHTINGS

3,791
HOURS

90
BEACH CLOSURES

DROWNING ANALYSIS

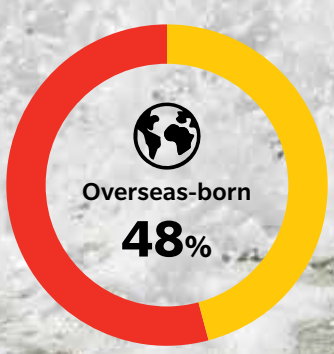
SECTION THREE

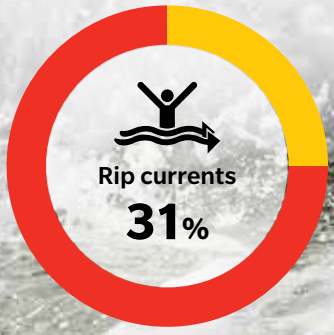
49 COASTAL & OCEAN DROWNING DEATHS

88% MALE

12% FEMALE

DROWNING STATISTICS 2004-20






SURF
SURFER
DHL

NEW SOUTH WALES DROWNING AND FATALITY OVERVIEW

2019/20: YEAR IN REVIEW

This year served up an array of unprecedented challenges that had dramatic impacts on tourism and travel (domestic and international) and saw restrictions placed on how and where people could use the coast. As the uncertainty continues and coastal recreation evolves accordingly, ongoing monitoring and research are needed to ensure coastal safety practices remain relevant.

In New South Wales, there were 49 coastal and ocean drowning deaths recorded. For the first time since data collection began, boating and personal watercarft (PWC) activities recorded the highest number of drowning deaths, which may suggest that people changed how they recreated on the coast in 2019/20. A further 50 other coastal fatalities (not drowning-related) were also recorded, 27 of which were unintentional. This equates to a total of 99 fatal incidents.

All incidents that result in the loss of life or long-term injury have devastating impacts on families, friends and communities. This includes surf lifesavers, lifeguards and other first responders. Involvement in any major rescue, trauma or fatal event can create enduring financial and social impacts on the health and well-being of the community and first responders.

Research is critical to understand why and how these coastal incidents occur and provides evidence that can guide future prevention and mitigation strategies.

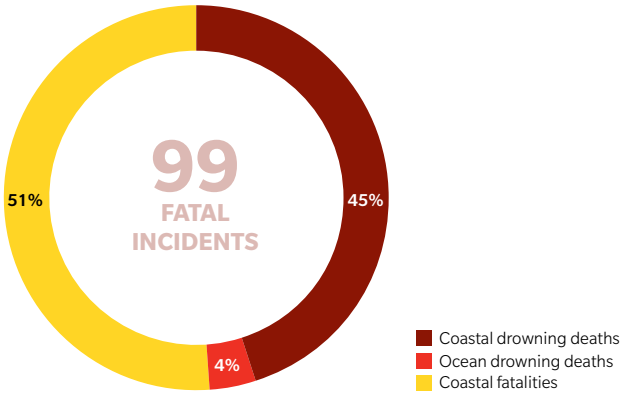
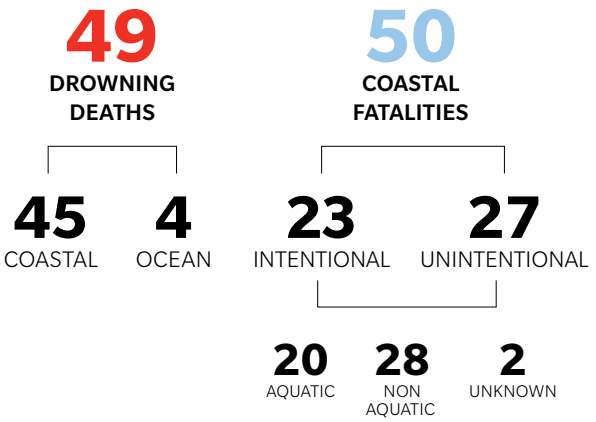


Figure 25
2019/20: OVERVIEW OF COASTAL AND OCEAN DROWNING DEATHS, AND OTHER COASTAL FATALITIES



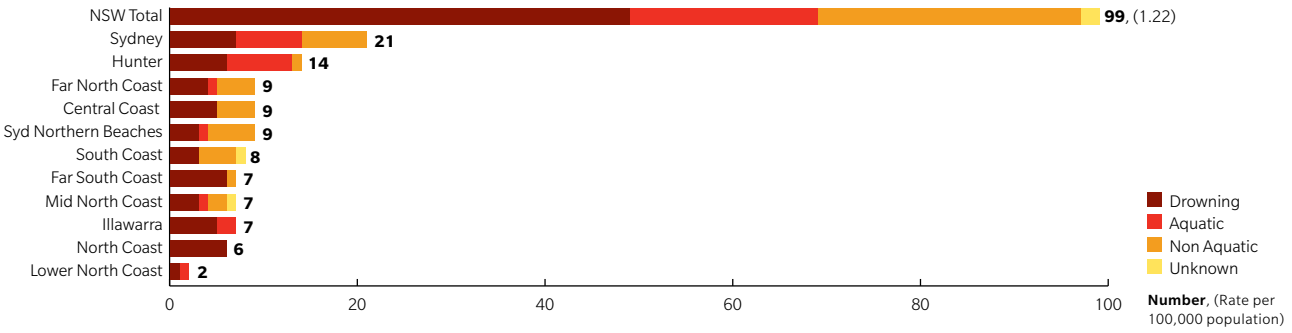


Figure 26
2019/20: OVERVIEW OF FATAL INCIDENTS FOR NSW AND SLS BRANCHES

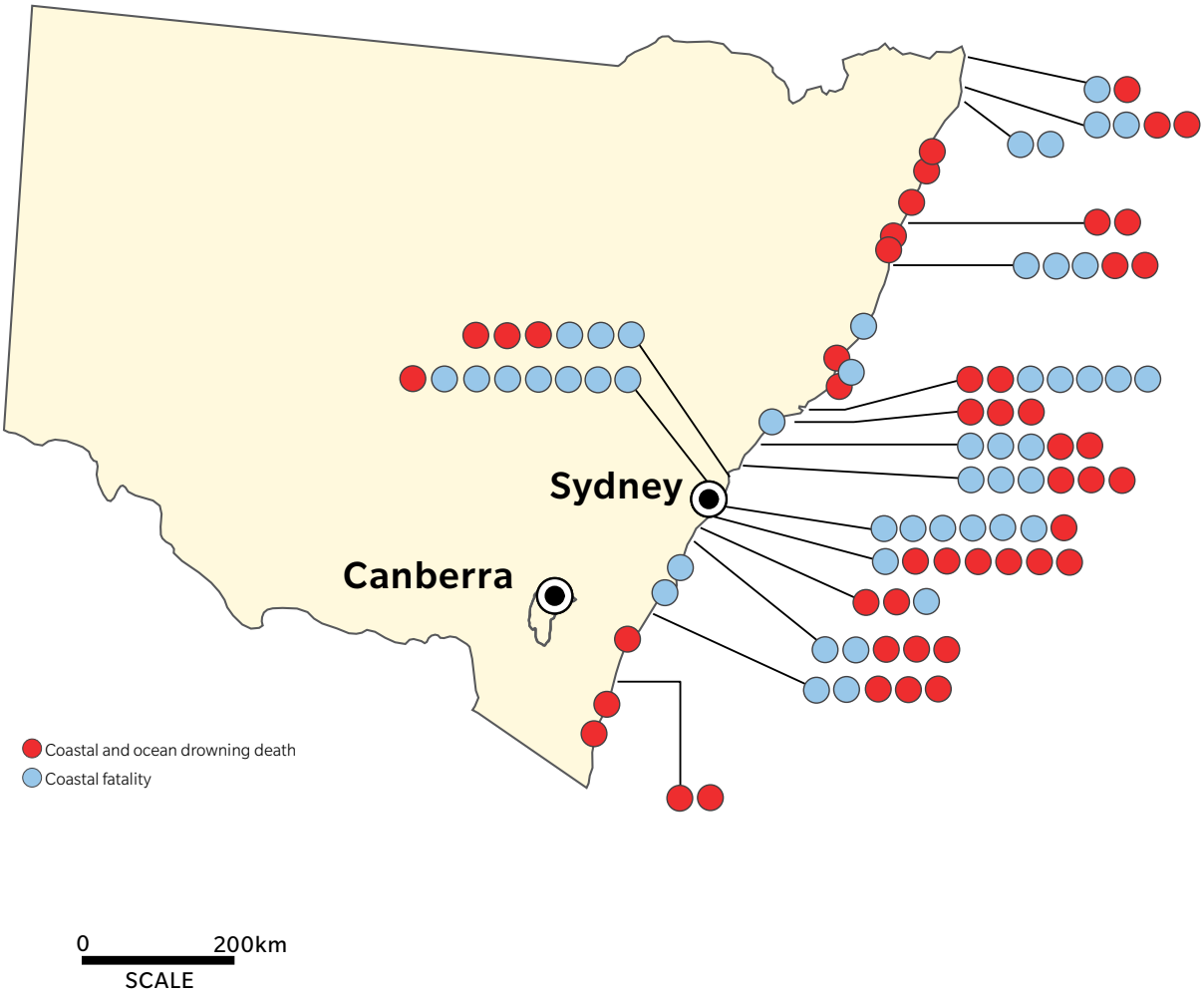


Figure 27

2019/20: COASTAL AND OCEAN DROWNING DEATHS AND OTHER COASTAL FATALITIES

In 2019/20 there were 49 coastal and ocean drowning deaths and 50 coastal fatalities (five incidents had unknown locations). Red and blue circles indicate drowning death and coastal fatality numbers respectively.

2019/20: LOCAL GOVERNMENT AREA COASTAL BLACKSPOTS

A blackspot is an area where a concentration of incidents are recorded and have a high risk of reoccurrence. These areas recorded the highest numbers of fatal incidents in 2019/20.

NSW: Port Stephens (9), Wollongong (6), NSW National Parks and Wildlife Service (6), Northern Beaches (5), Shoalhaven (5) and Kempsey (5).

NEW SOUTH WALES DROWNING OVERVIEW

2019/20: YEAR IN REVIEW

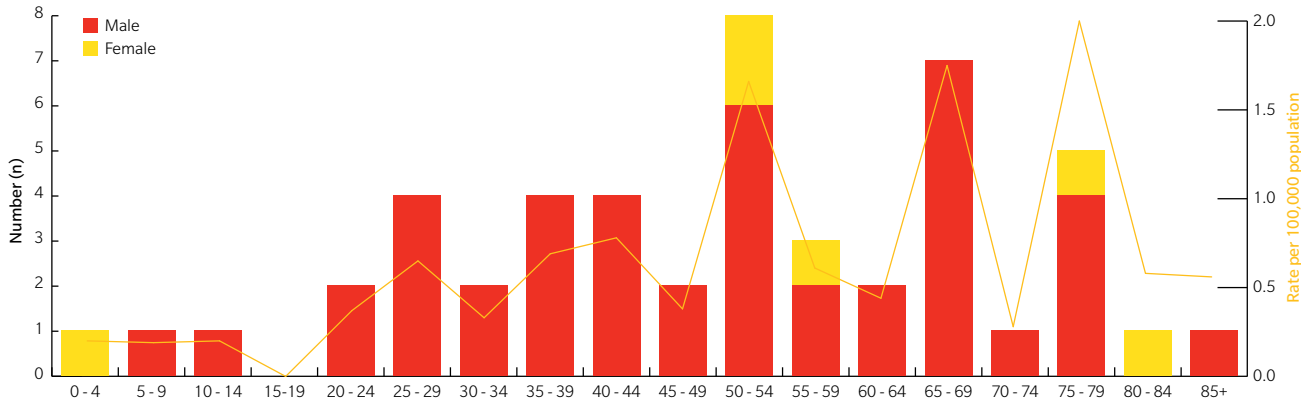
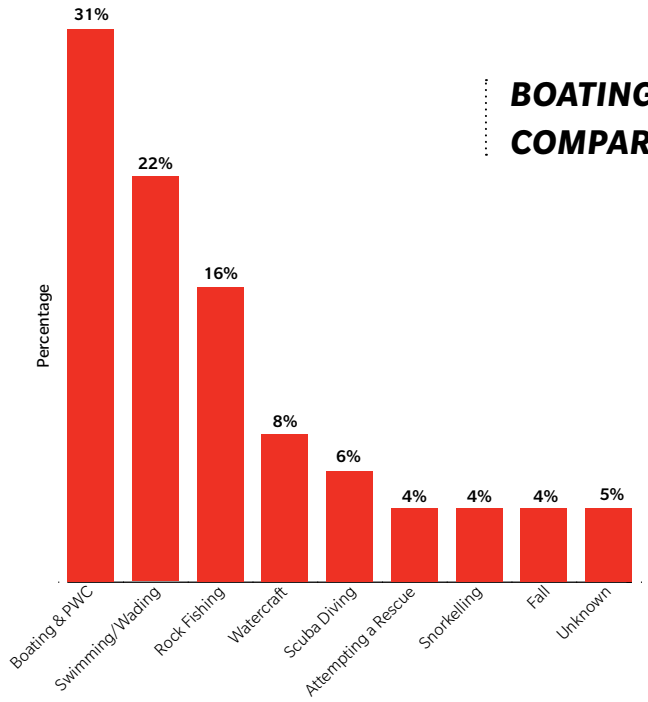


Figure 28

2019/20: COASTAL AND OCEAN DROWNING DEATHS BY AGE AND GENDER (N=49)

The highest number of drowning deaths were recorded for individuals between 50-59 years old and 60-69 years old. 75-79 year olds recorded the highest mortality rate (2.0 per 100,000 population). Overall, 88% of drowning deaths were male (n=43).



BOATING & PWC INCIDENTS ALMOST TRIPLED COMPARED TO THE 16-YEAR AVERAGE

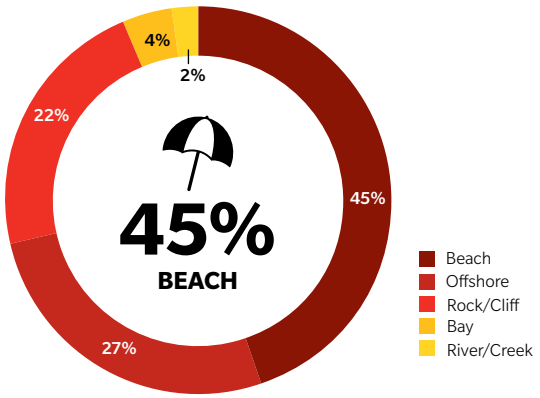


Figure 29

2019/20: COASTAL AND OCEAN DROWNING DEATHS BY ACTIVITY (N=49)

Boating & PWC activities recorded the most drowning deaths (n=15), followed by swimming/wading (n=11), rock fishing (n=8) and watercraft (n=4).

Figure 30

2019/20: COASTAL AND OCEAN DROWNING DEATHS BY ENVIROMENT (N=49)

Most drowning deaths occurred at beaches (n=22).

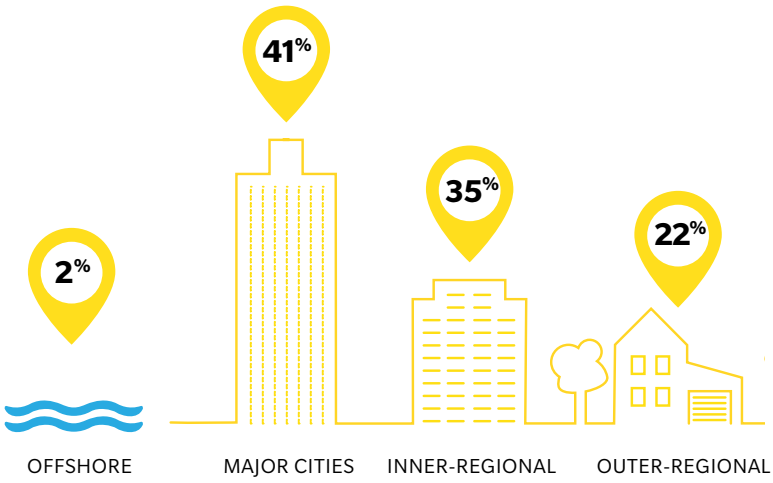


Figure 31

2019/20: REMOTENESS CLASSIFICATION OF COASTAL AND OCEAN DROWNING DEATHS (N=49)

Forty-one percent of drowning deaths occurred in major cities (n=20), followed by inner (n=17) and outer-regional (n=11) locations. The 'remoteness classification' of an incident location was coded to the Australian Statistical Geographic Standard Remoteness Areas.

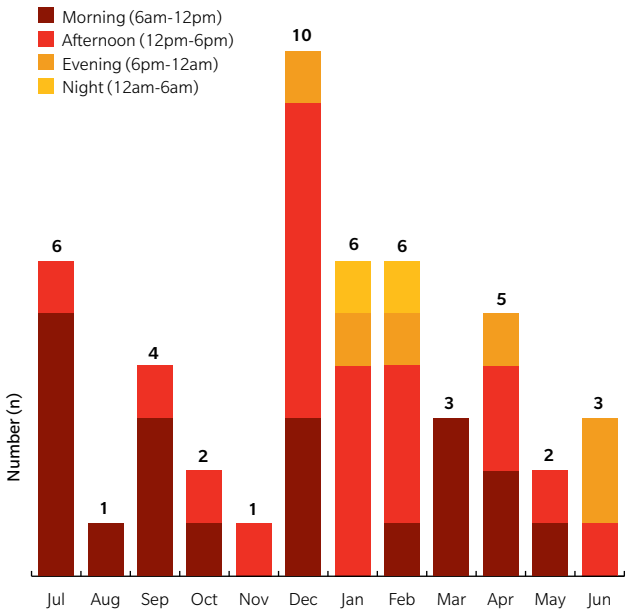


Figure 32

2019/20: COASTAL AND OCEAN DROWNING DEATHS BY MONTH AND TIME OF DAY (N=49)

Most drowning deaths (n=22, 44%) happened over summer (Dec-Feb). Of these summer incidents, most happened in the afternoon (n=13).

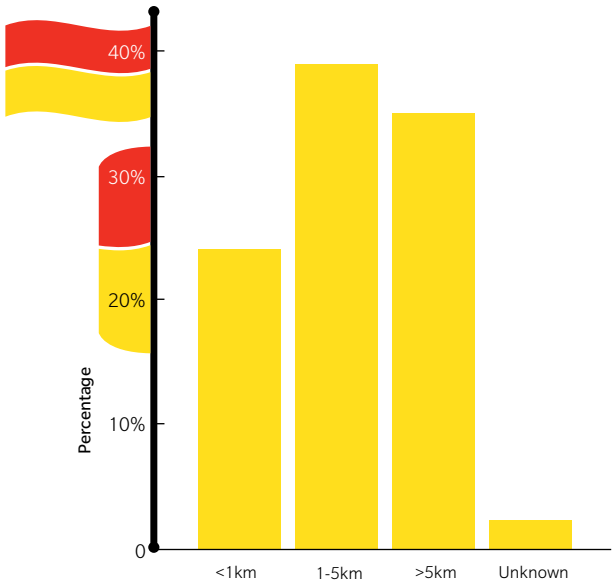


Figure 33

2019/20: DISTANCE FROM DROWNING LOCATION TO A SURF LIFE SAVING SERVICE (N=49)

Most of 2019/20 drowning deaths occurred 1 to 5km from a surf life saving service (n=19, 39%).

NEW SOUTH WALES DROWNING OVERVIEW

2004–20: 16-YEAR REVIEW

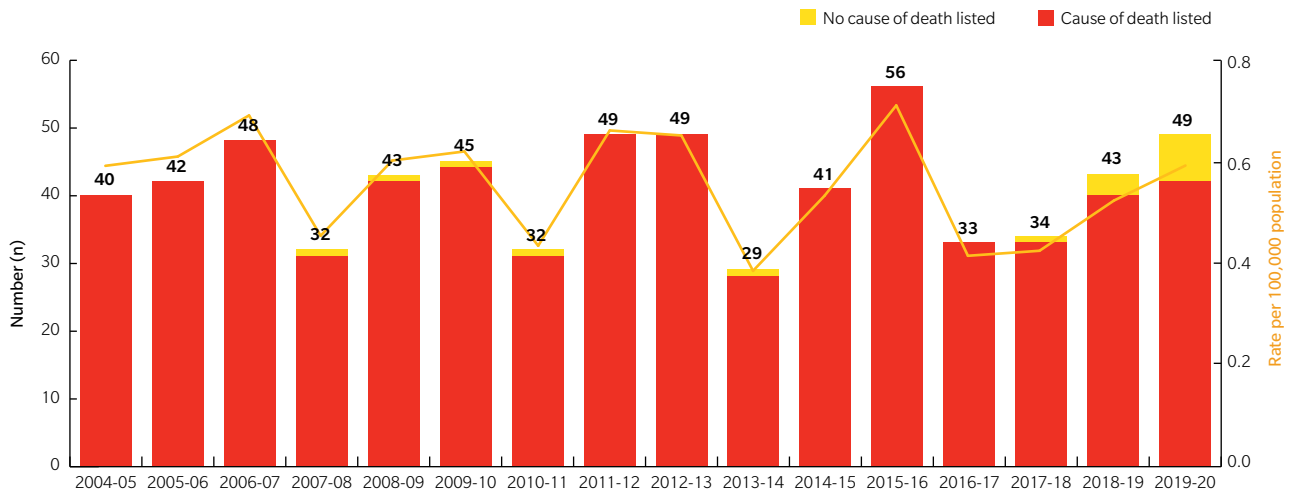


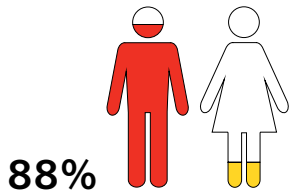
Figure 34

2004-20: NEW SOUTH WALES COASTAL AND OCEAN DROWNING DEATHS (N=665)

Coastal and ocean drowning deaths in New South Wales and crude mortality rates from 2004-20 are illustrated above. 49 drowning deaths were recorded in 2019/20, above the 16-year average of 42. The 2019/20 mortality rate is 0.60 per 100,000 population, greater than the 16-year average of 0.56 per 100,000 population.

42
16-YEAR AVERAGE COASTAL AND OCEAN DROWNING DEATHS

0.56
16-YEAR AVERAGE RATE PER 100,000 POPULATION



KEY DEMOGRAPHICS

20-34 YEAR OLDS

45-54 YEAR OLDS

The 20-34 year old age group accounts for 28% of all coastal and ocean drowning deaths, while 45-54 year olds account for 19%.

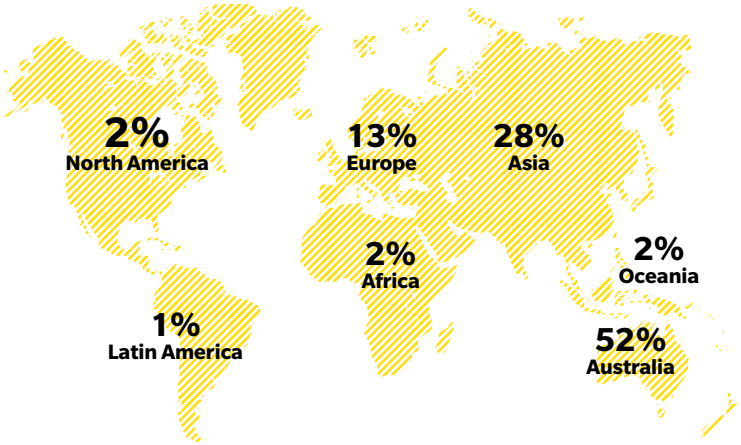


Figure 35

2004-20: COASTAL AND OCEAN DROWNING DEATHS BY CONTINENT OF BIRTH

Continent of birth is known for 84% of coastal and ocean drowning deaths (n=560), with 52% born in Australia (n=291), 28% born in Asia (n=159) and 13% born in Europe (n=72).

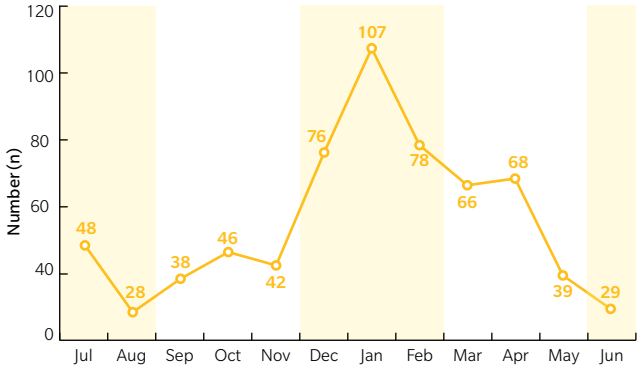


Figure 36

2004-20: COASTAL AND OCEAN DROWNING DEATHS BY MONTH

The highest number of coastal and ocean drowning deaths occurred in January (n=107), followed by February (n=78) and December (n=76). Over one-third (39%) of incidents occurred during summer (n=261). Shading denotes seasons.

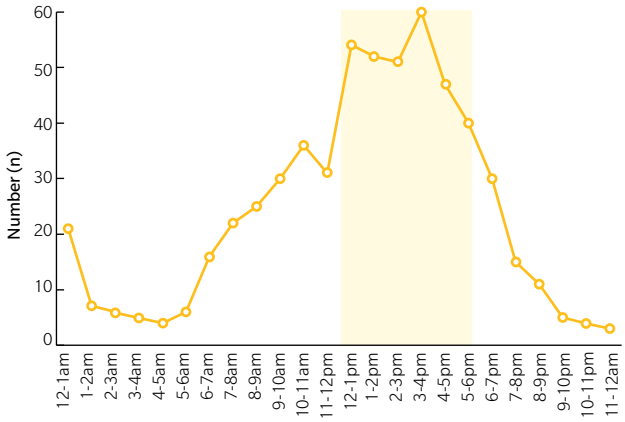


Figure 37

2004-20: COASTAL AND OCEAN DROWNING DEATHS BY TIME

Incident time is currently known for 87% of coastal and ocean drowning deaths (n=581). Over half (52%) of all known drowning deaths occurred between 12pm and 6pm (shaded area).

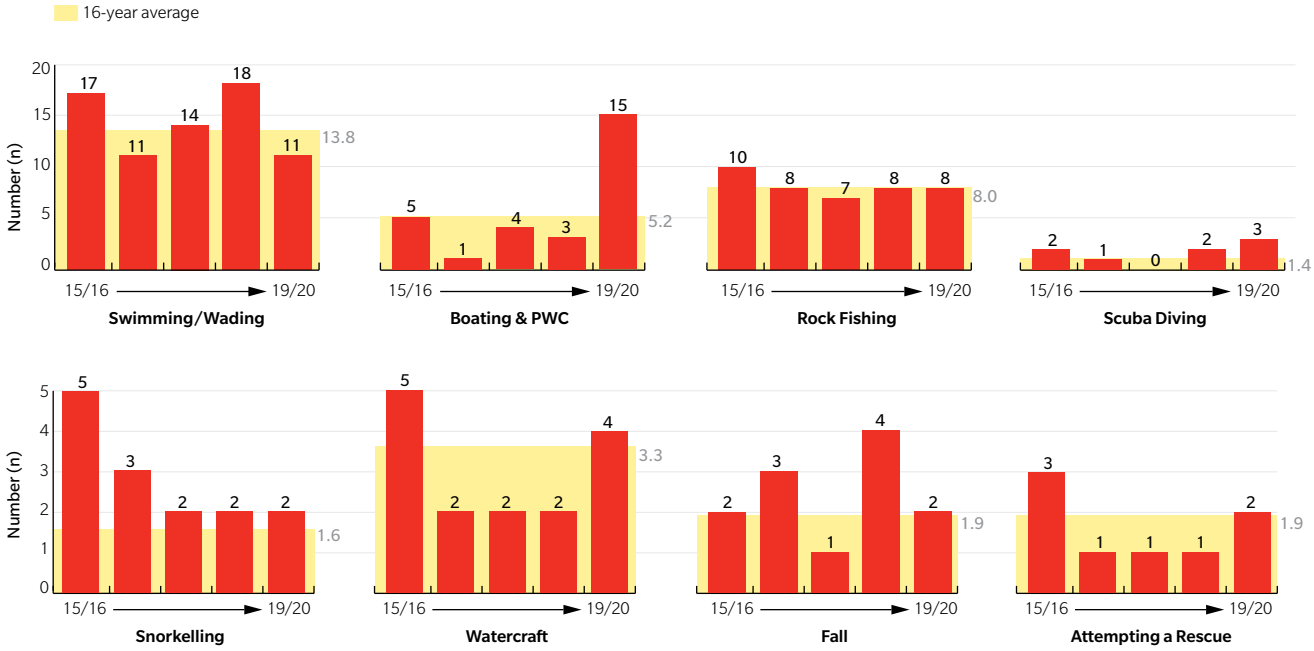


Figure 38

2004-20: TRENDS OF COASTAL AND OCEAN DROWNING DEATHS BY ACTIVITY FOR THE PAST FIVE YEARS COMPARED WITH THE 16-YEAR AVERAGE

Coastal and ocean drowning deaths vary by activity and over time. In 2019/20, boating & PWC, scuba diving, snorkelling, watercraft, fall-related, and rescue incidents were above the 16-year average, while swimming/wading was below. Rock fishing incidents were equal to the 16-year average.

BOATING AND ROCK FISHING DROWNING DEATHS

At approximately 6.15 pm on Saturday 6 June 2020, surf lifesavers from the Illawarra Branch responded to a report from NSW Police Marine Area Command that several people were in the water off Bulli, Wollongong, screaming for help. The Surf Life Saving Illawarra Duty Officer and Bulli Surf Life Saving Club Emergency Callout Team were immediately mobilised.

A search was undertaken in challenging conditions, alongside NSW Police (including the PolAir helicopter, fixed wing aircraft, and Water Police), Toll Ambulance Rescue Helicopter Service, and Marine Rescue NSW. They were looking for four people who were missing in the water after their vessel had been overturned by a wave.

The operation, which took place in 1.5 metre surf around reef and rocky outcrops, proved difficult but searchers were able to locate and rescue two people from the water. Over the evening and following day, the search for the remaining two people was also joined by the Westpac Life Saver Rescue Helicopter and NSW Maritime. Tragically, later that evening one person was found deceased in the capsized vessel, while the remaining person was located deceased in the water off Corrimal.

The response by emergency services demonstrated collaboration and interoperability, working to the strengths of each service. This was recognised with the multi-agency response being awarded a Surf Life Saving NSW Rescue of the Month Award.

Unfortunately, the tragedy off Bulli was one of a number of boating incidents in or near the surf zone that Surf Life Saving NSW responded to over 2019/20. This season saw a sharp increase in the number of coastal and ocean drowning deaths among people who were boating. There were 15 deaths between 1 July 2019 and 30 June 2020, equating to a five-fold increase when compared to the 2018/19 season, and almost three times greater than the

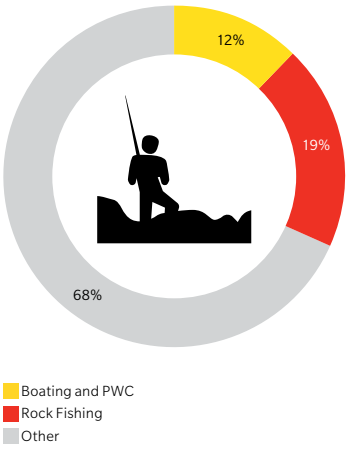


Figure 39
2004-20: PROPORTION OF COASTAL AND OCEAN DROWNING DEATHS INVOLVING BOATERS AND ROCK FISHERS

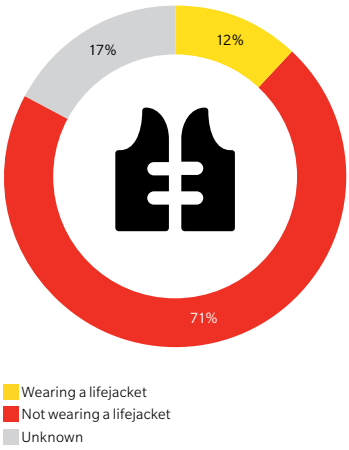


Figure 40
2004-20: LIFEJACKET USE IN BOATING AND ROCK FISHING-RELATED DROWNING DEATHS

SINCE 2004

150

BOATERS AND ROCK FISHERS MAY HAVE SURVIVED IF THEY WERE WEARING A LIFEJACKET.

A FURTHER 9 MAY HAVE SURVIVED IF THEIR LIFEJACKET WAS WORN AND/OR DEPLOYED CORRECTLY.

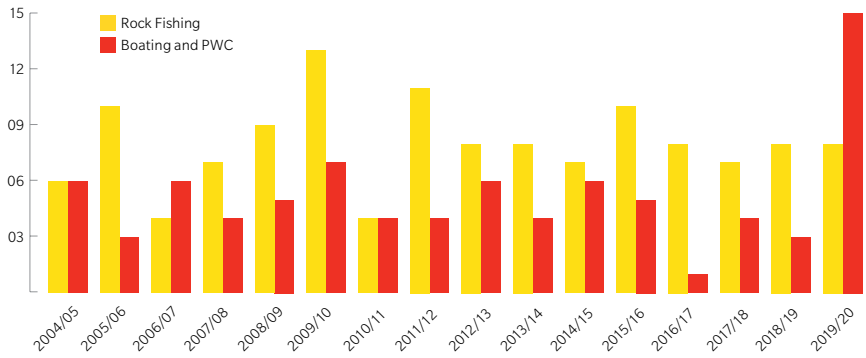


Figure 41

2004-2020: COASTAL AND OCEAN DROWNING DEATHS INVOLVING BOATERS AND ROCK FISHERS

On average there are 5.2 boating-related drowning deaths and 8 rock fishing-related drowning deaths every year.

average over the previous 16 years (Figure 41). Boating was the most commonly listed recreational activity in coastal and ocean drowning deaths over the 2019/20 season, exceeding incidents involving swimmers (n=11).

There were also eight drowning deaths involving rock fishers over the 2019/20 season, which is consistent with the average for the past 16 years.

Of the boating-related drowning deaths in 2019/20, the majority were males aged over 50 years old. All resided in Australia, and many incidents involved more than one death. This is broadly consistent with the trends from previous years. In comparison, drowning deaths of rock fishers in 2019/20 involved middle aged or older males who resided in Australia and were of Korean, Australian, Chinese, and Vietnamese heritage. All but one rock fishing drowning death occurred during winter and autumn, and all occurred during the morning or early afternoon. In contrast, boating drowning deaths occurred at many different times of the year and at different times of the day.

Most of the boating and rock fishing drowning victims were not wearing lifejackets at the time of incidence, or were using them incorrectly. Many boating incidents occurred after the vessels capsized in rough conditions, or while attempting to cross a bar.

This highlights the need for water safety stakeholders to continue to educate the community on ways to enjoy our coastline safely. In particular, all boaters and rock fishers should be encouraged to check the weather and ocean conditions prior to going out and monitor the conditions while they are out. In addition, they should ensure that they always wear a correctly fitted lifejacket, and clearly understand the use and maintenance of their lifejacket. It is notable that a considerable number of rock fishing incidents occurred outside of the patrolling season; as such, the continued installation and maintenance of appropriate public rescue equipment on rock platforms would be of benefit.

Boaters should also always 'Log On' with their marine radio to provide details of their trip to Marine Rescue NSW. Visit https://www.marinerescuensw.com.au/boating-safety/log-on-and-log-off-for-safer-boating/ for further information.

UNINTENTIONAL COASTAL FATALITIES

2004-20: 16-YEAR REVIEW

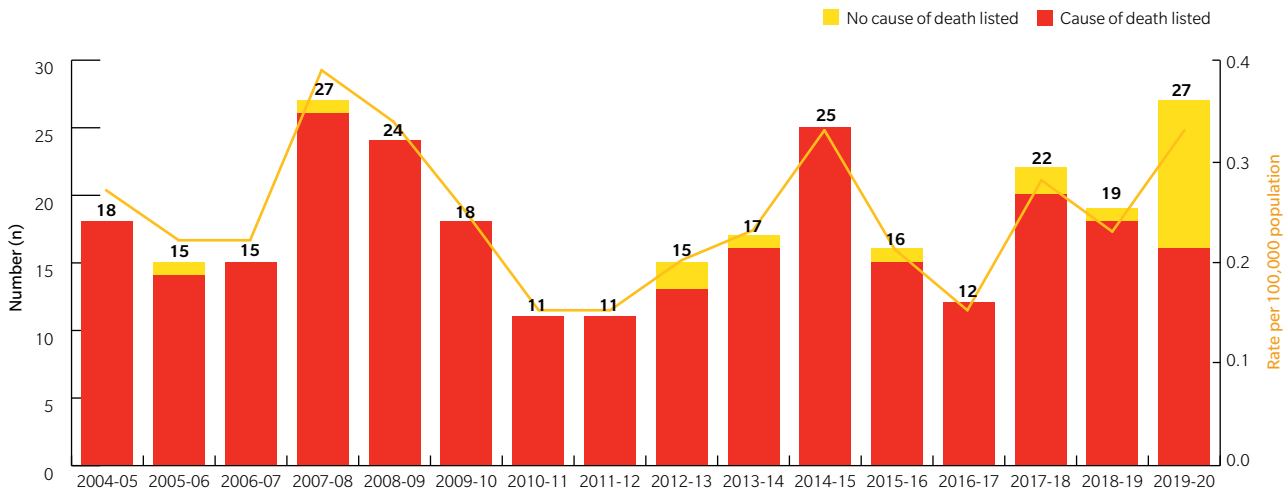


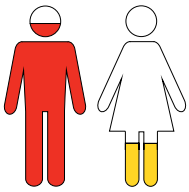
Figure 42

2004-20: NEW SOUTH WALES UNINTENTIONAL COASTAL FATALITIES (N=292)

Unintentional coastal fatalities for New South Wales and crude mortality rates from 2004-20 are illustrated above. 27 unintentional coastal fatalities were recorded in 2019/20, above the 16-year average of 18. The 2019/20 mortality rate is 0.33 per 100,000 population, above the 16-year average of 0.25 per 100,000 population.

18
16-YEAR AVERAGE UNINTENTIONAL COASTAL FATALITIES

0.25
16-YEAR AVERAGE RATE PER 100,000 POPULATION



84% 16%

KEY DEMOGRAPHICS

40-49 YEAR OLDS

55-64 YEAR OLDS

The 40-49 year old age group accounts for 18% of unintentional coastal fatalities while 55-64 year olds account for 24%, predominantly due to medical complications. Age was known for 99% of cases (n=289).

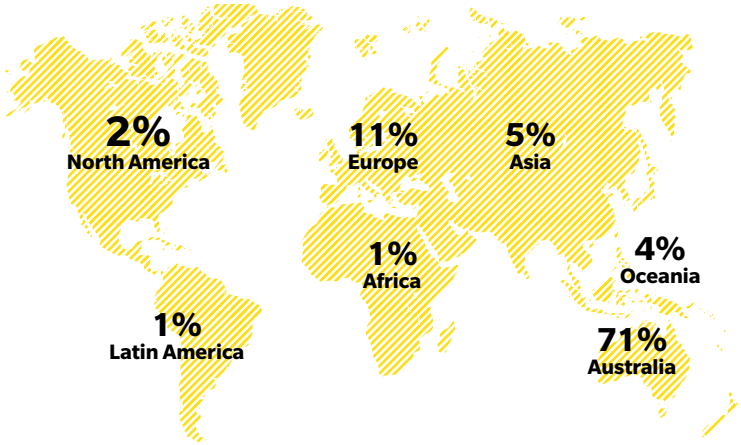


Figure 43

2004-20: UNINTENTIONAL COASTAL FATALITIES BY CONTINENT OF BIRTH

Continent of birth is known for 80% of unintentional coastal fatalities (n=234), with 71% born in Australia (n=165), 11% born in Europe (n=31) and 5% born in Asia (n=16).

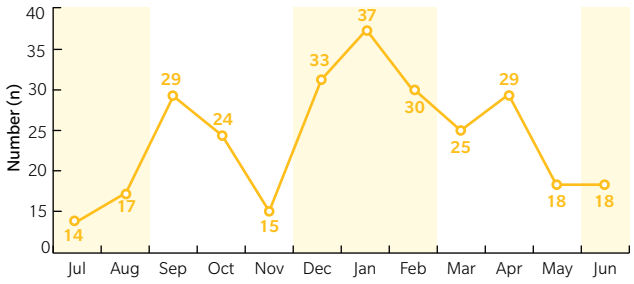


Figure 44

2004-20: UNINTENTIONAL COASTAL FATALITIES BY MONTH

The highest number of unintentional coastal fatalities occurred in January (n=37), followed by December (n=33) and February (n=30). 66% of incidents occurred outside summer (n=192). Incident month was known for 99% of unintentional coastal fatalities (n=289). Shading denotes seasons.

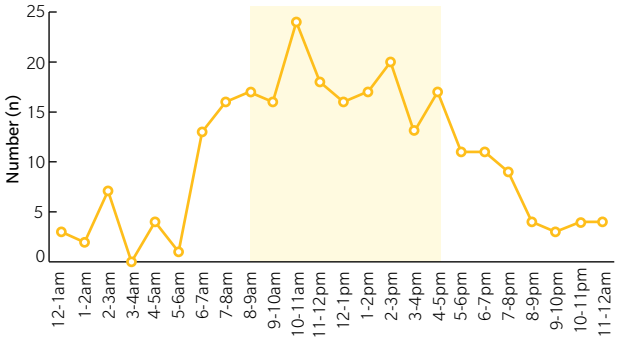


Figure 45

2004-20: UNINTENTIONAL COASTAL FATALITIES BY TIME

Unintentional coastal fatalities peak between 10am and 11am, with 63% between 9am and 5pm (n=158; shaded area). Incident time is currently known for 86% of coastal fatalities (n=250).

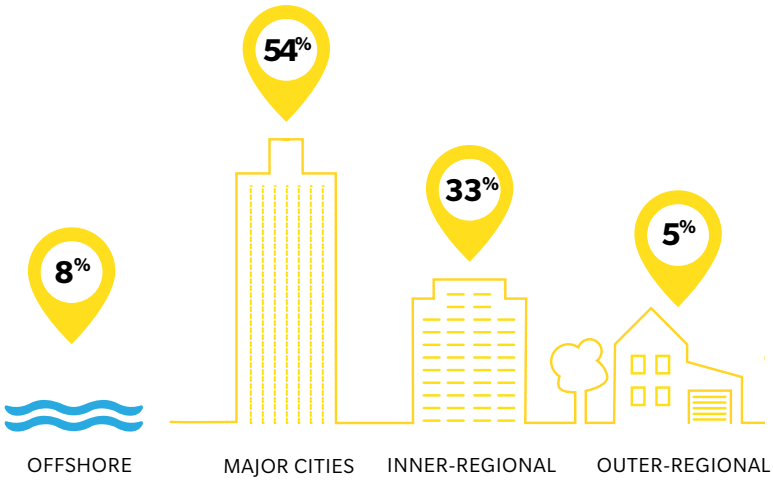


Figure 46

2019/20: REMOTENESS CLASSIFICATION OF UNINTENTIONAL COASTAL FATALITIES (N=292)

Fifty-four percent of unintentional coastal fatalities occurred in major cities (n=155), followed by inner-regional locations (n=95) and offshore waters (n=22). The 'remoteness classification' of an incident location was coded to the Australian Statistical Geographic Standard Areas.

DROWNING DEATHS VS. UNINTENTIONAL COASTAL FATALITIES

2004-20: 16-YEAR REVIEW

Drowning deaths are severe, accidental and largely preventable events that dominate the focus of coastal safety research. Our research has demonstrated that a significant proportion of unintentional coastal fatalities are non-drowning related and occur due to medical incidents, injuries, alcohol, drugs and marine creatures. These pages investigate the frequency and nature of these unintentional coastal fatalities compared to drowning deaths.

Between 2004 and 2020, there have been 1,378 fatal coastal incidents recorded on the NSW coast. Forty-eight percent were drowning deaths (n=665), while the other half were not drowning-related (n=713). Forty-one percent of these other coastal fatalities were unintentional (n=292). When drowning deaths are combined with these other unintentional coastal fatalities, drowning is by far the most common cause of death (69%; Figure 47). Cardiac episodes were reported as the cause of death in 14% of the total unintentional incidents, while fatal shark attacks accounted for 1%.

Most drowning deaths (52%) and unintentional coastal fatalities (71%) involved people born in Australia (Figure 49). Of those drowning victims who were born overseas, the largest proportion were from Europe (13%), while those born in Asia were highly represented in the other unintentional coastal fatalities (28%). For both drowning deaths and other unintentional coastal fatalities involving those born overseas, most were Australian residents, except for victims of unintentional coastal fatalities from North America, who were mostly short-term visitors.

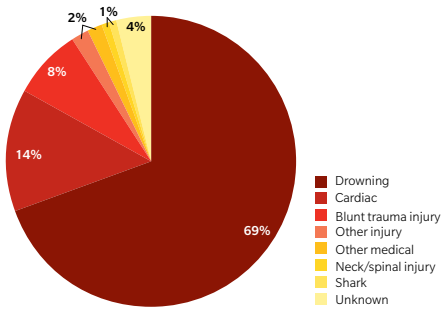


Figure 47

2004-20: CAUSAL FACTORS

Drowning is the most common causal factor of the total unintentional incidents (n=957).

69%

TOTAL UNINTENTIONAL INCIDENTS IN NSW WERE DUE TO DROWNING COMPARED TO 1% DUE TO SHARK ATTACKS

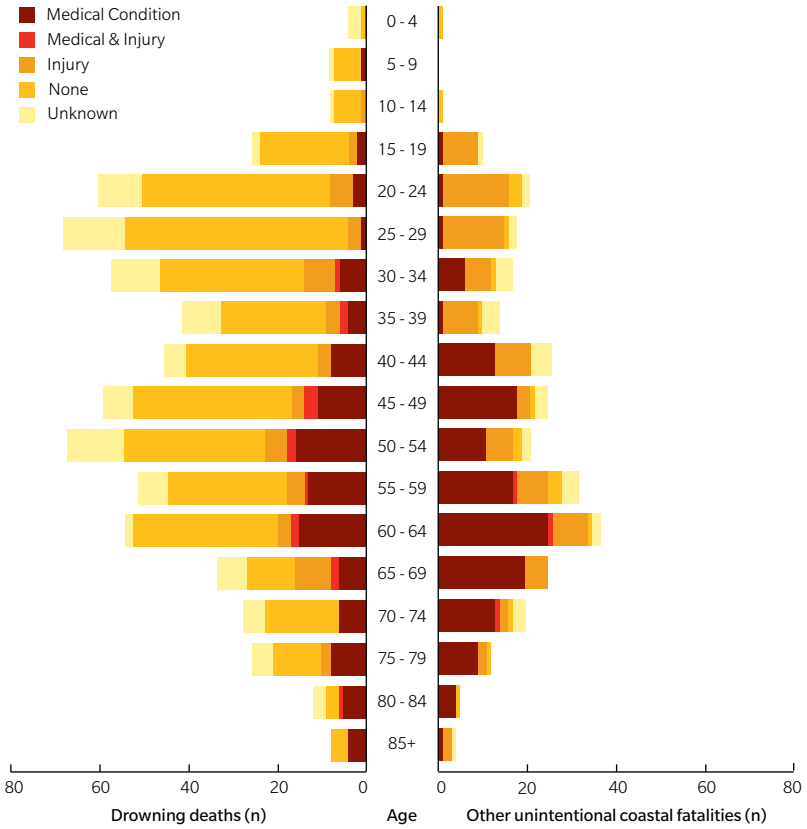


Figure 48

2004-20: MEDICAL AND INJURY-RELATED INCIDENTS BY AGE

Medical conditions and injuries contributed to 26% of drowning deaths and 82% of other unintentional coastal fatalities. 45-69 year olds are more likely to be affected by medical complications, while 20-39 year olds are more likely to be injured.

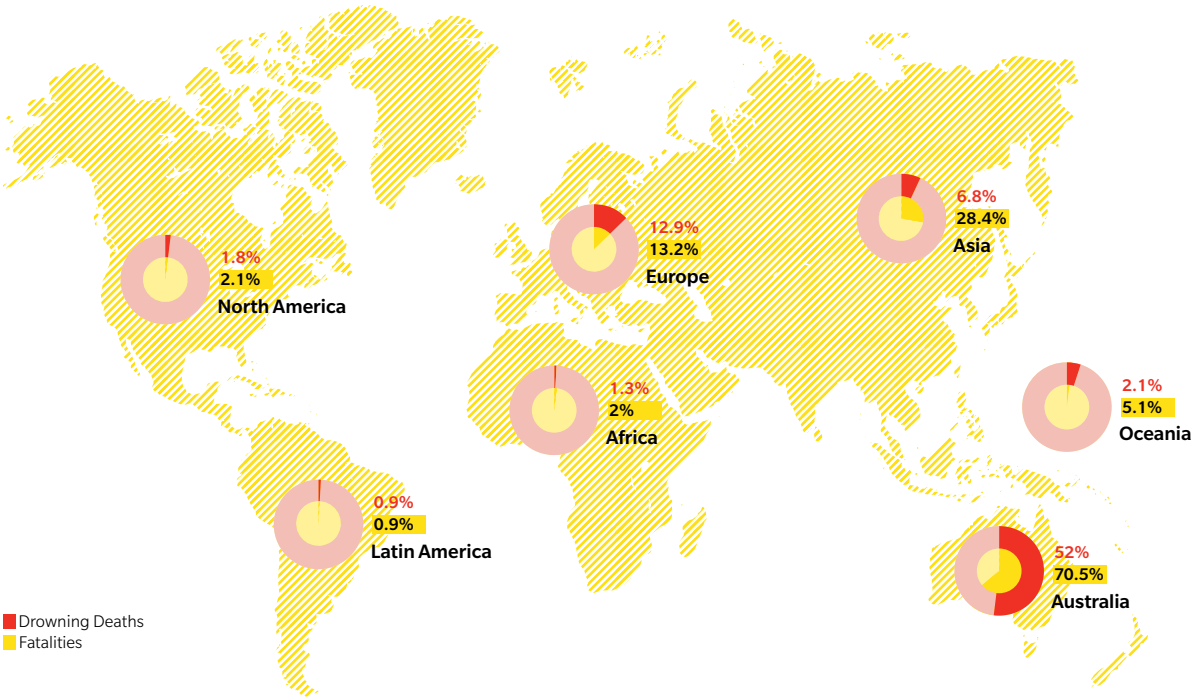


Figure 49

2004-20: DROWNING DEATHS AND FATALITIES BY KNOWN CONTINENT OF BIRTH

Between 2004 and 2020, the country of birth is known for 84% of drowning deaths and 80% of other unintentional coastal fatalities. Australian-born residents accounted for 52% of drowning deaths and 71% of other unintentional coastal fatalities.

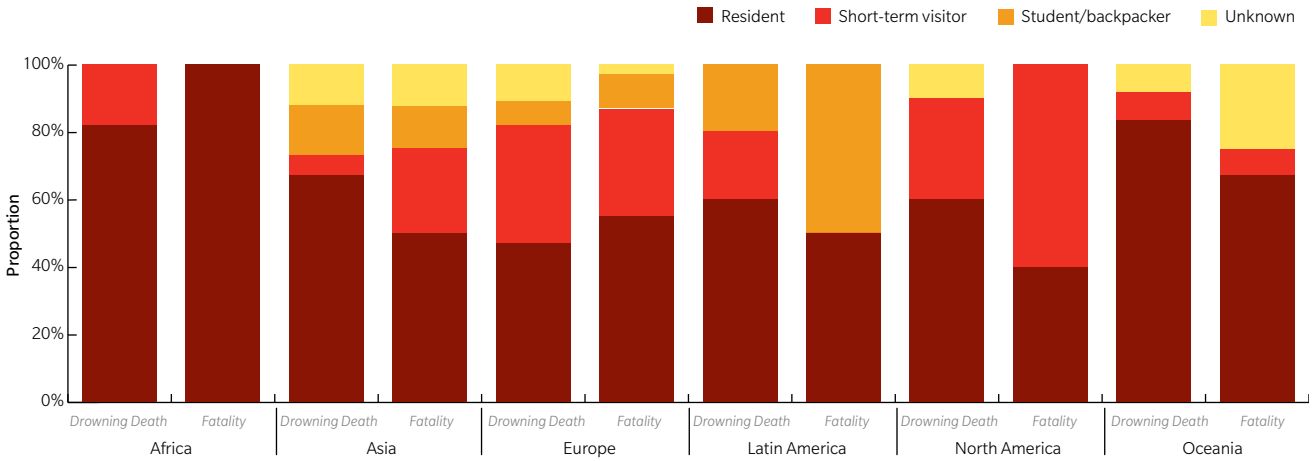


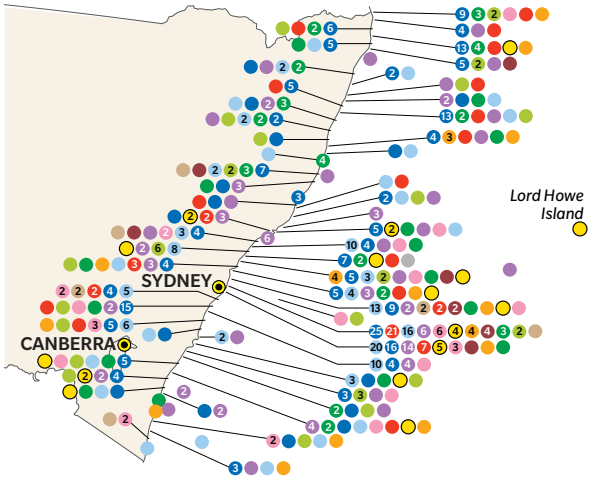
Figure 50

2004-20: VISITOR CATEGORIES OF TOTAL UNINTENTIONAL INCIDENTS INVOLVING OVERSEAS-BORN INDIVIDUALS

For both drowning deaths and other unintentional coastal fatalities involving those born overseas, most were Australian residents, except for victims of unintentional coastal fatalities from North America, who were mostly short-term visitors.

DROWNING SNAPSHOT

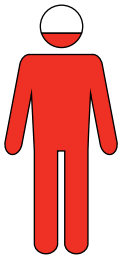
2004–20 COASTAL AND OCEAN DROWNING DEATHS



- Attempting a Rescue
- Boating & PWC
- Fall
- Jump
- Land-based Fishing
- Non Aquatic Transport
- Other
- Rock Fishing
- Scuba Diving
- Snorkelling
- Swimming/Wading
- Unknown
- Watercraft
- Multiple instances per activity at the same location
- Capital city

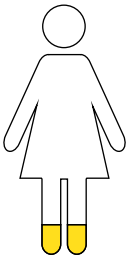
AVERAGE
42
NUMBER

AVERAGE MORTALITY RATE
0.56
PER 100,000 POPULATION



88%
MALE

12%
FEMALE



KEY ACTIVITY DEMOGRAPHICS

60-79 YEAR OLD BOATERS

&

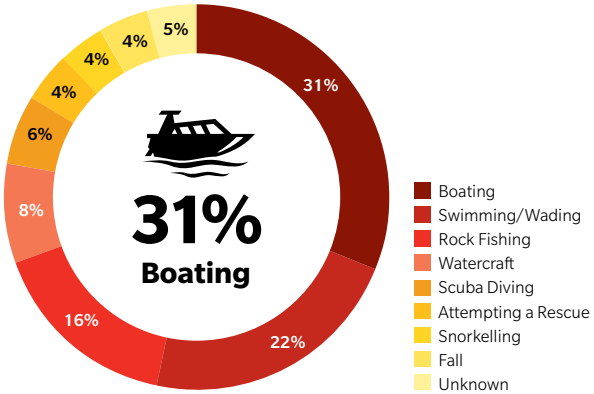
40-64 YEAR OLD ROCK FISHERS, SNORKELLERS AND SCUBA DIVERS

2019/20 COASTAL AND OCEAN DROWNING DEATHS

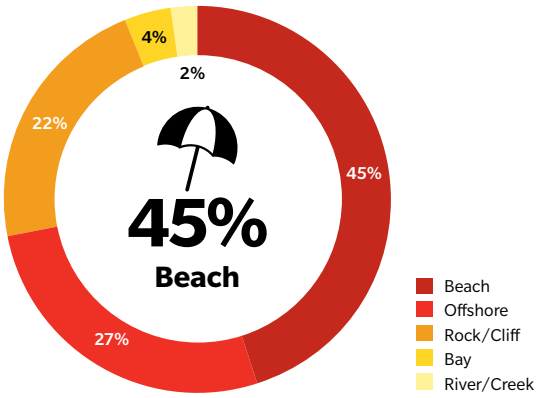
49

MORTALITY RATE
0.60
PER 100,000 POPULATION

DROWNING DEATHS BY ACTIVITY



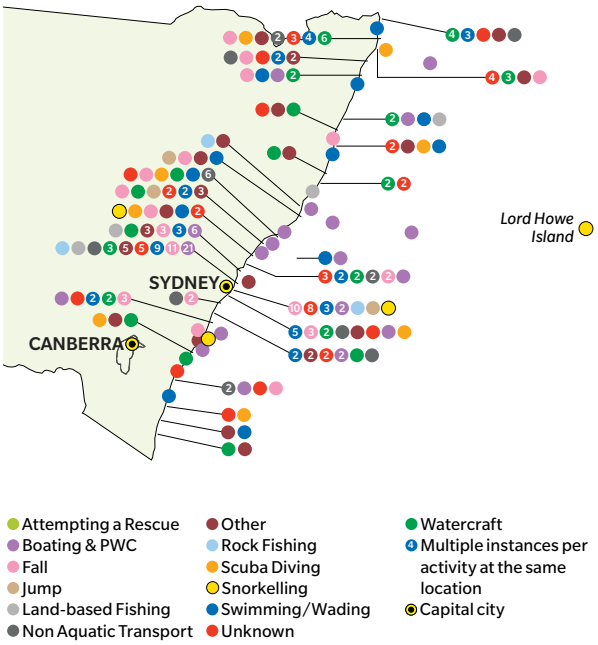
DROWNING DEATHS BY ENVIRONMENT



39% BETWEEN 1 AND 5 KM FROM A SURF LIFE SAVING SERVICE

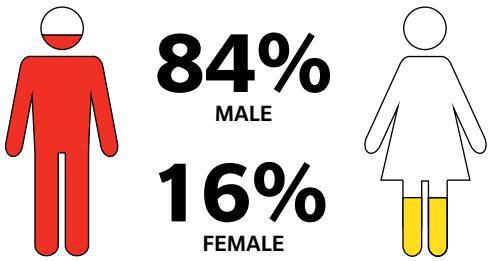
UNINTENTIONAL COASTAL FATALITIES SNAPSHOT

2004–20 UNINTENTIONAL COASTAL FATALITIES



AVERAGE
18
NUMBER

AVERAGE MORTALITY RATE
0.25
PER 100,000 POPULATION



KEY ACTIVITY DEMOGRAPHICS

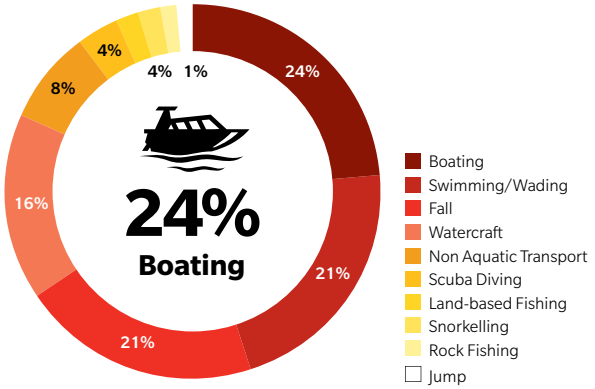
65-74 YEAR OLD BOATERS & **40-49** YEAR OLD WATERCRAFT USERS

2019/20 UNINTENTIONAL COASTAL FATALITIES

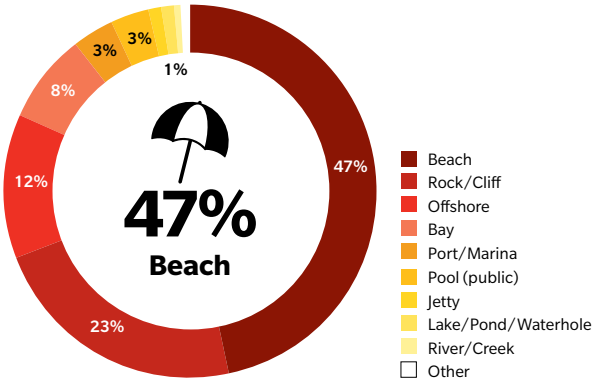
27

MORTALITY RATE
0.33
PER 100,000 POPULATION

2004–20: FATALITIES BY ACTIVITY



2004–20: FATALITIES BY ENVIRONMENT



36% LESS THAN 1KM FROM A SURF LIFE SAVING SERVICE

GLOSSARY

Adult For the purpose of this report, adults refer to a person 16-years of age and over.

Advanced Resuscitation Techniques A certification providing the skills and knowledge required to use specialised equipment in the provision of resuscitation in line with the Australian Resuscitation Council (ARC) guidelines.

ALS Australian Lifeguard Service.

Apply First Aid A certification providing the skills and knowledge required to provide a first aid response to a casualty.

Attempting a rescue Trying to retrieve a person in distress and deliver them to a place of safety.

AWSC Australian Water Safety Council also Australian Water Safety Conference.

AWSS Australian Water Safety Strategy.

Bay A body of water partially enclosed by land but with a wide mouth, affording access to the sea.

Beach A wave-deposited accumulation of sediment, usually sand but ranging in size up to boulders, deposited between the upper swash limit and wave base.

Blackspot An area with a concentration of coastal and ocean drowning deaths and a high risk of recurrence.

Boating Using either a powered vessel or sailing boat for pleasure and/or fishing.

Bystander A person who is present at an incident but not part of it initially.

Coastal Describes the foreshore, seabed, coastal water and air space above a large body of water (harbour/bay/inlet), including areas up to 3nm offshore and of which the landward boundary is the line of mean high water, except where that line crosses a river/inlet, the landward boundary at that point shall be the point upstream that is calculated by multiplying the width of the river/inlet mouth by five (adopted from the Resource Management Amendment Act 1993 New Zealand).

COD Cause of death.

Crude fatality rate A comparative rate of mortality to the size of the population of participants for a given area or activity.

Dangerous surf warning An alert issued by the Bureau of Meteorology indicating that surf conditions in an area are unsafe for coastal activities. The warnings are calculated based on wave height, swell direction and swell period and must exceed the predetermined limitations to be in effect.

Drowning The process of experiencing respiratory impairment from submersion/immersion in liquid; outcomes are classified as death, morbidity and no morbidity.

Drowning death A fatal drowning incident arising from the process of respiratory impairment as a result of submersion/immersion in liquid.

Drugs A medicine or other substance which has a physiological effect when ingested or otherwise introduced to the body. The category includes therapeutic, over-the-counter and illicit drugs.

Emergency response An action taken by an SLS entity in response to a call for assistance from an emergency management organisation.

Falls (trips/slips) Events that result in a person coming to rest inadvertently on the ground or other lower level.

Fatality A fatal incident arising from circumstances other than drowning (e.g. medical condition, injury, self-harm, marine creature).

First Aid Assessments and interventions that can be performed by a bystander (or by the victim) with minimal to no equipment.

Fishing The act of attempting to catch fish from anywhere except coastal rock platforms.

Hazard A source of potential harm.

Incident Any unplanned event requiring surf lifesaving services intervention.

Inland An area that is beyond the line of mean high water or within a landward distance of five times the width of the coastal inlet/river mouth.

Inshore The coastal water area within 500m of the low tide area of the foreshore.

Intentional fatality Any intentional incident, including homicide and self- harm related incidents.

International Describes an individual who is confirmed to reside overseas and/or is a temporary visitor to Australia.

IRB Inflatable rescue boat.

IRD Incident report database. A web-based portal used by SLS services to electronically record incident reports.

Jetty An artificial structure that projects out into the water from land.

JRB Jet rescue boat.

Jump(ing) The activity of launching off a cliff, rock platform, pier, jetty. Aka tombstoning (UK/Europe/North America).

Lake An inland body of water surrounded by land.

Lifeguard An individual who undertakes patrols at a beach or another aquatic environment. He/she is typically a salaried member, qualified in public safety and aquatic rescue.

Lifejacket A buoyant or inflatable garment or device designed to keep a person afloat in water and increase their likelihood of survival.

Lifesaving Service A coordinated group that exists to provide aquatic safety services to the public. This includes Surf Life Saving Clubs, Lifeguards, Surfcom, RWCs, RIBs, JRBs, ORBs, Rescue Helicopters and 4WD units.

Local Government Area (LGA) Also known as local councils, LGAs include cities, town, shires, municipalities or boroughs.

Marina A man-made boat basin having sea walls or breakwaters and offering dockage and other services for water vessels.

Medical For the purpose of this report, medical refers to an incident that was caused by a medical episode, e.g. a heart attack or epileptic seizure.

NCIS National Coronial Information System.

NCSS The National Coastal Safety Survey conducted annually to gather information about Australian coastal participation swimming ability, risk perception, behaviours and attitudes to coastal safety.

Non aquatic fatality Non-aquatic fatalities refer to non-drowning related incidents which have occurred at a coastal location but not in the water.

Non aquatic transport Any form of transport that is not meant for the water such as airplanes, bicycles, and motor vehicles.

Offshore Describes the coastal water area beyond the surf zone and inshore area from 500m to 200nm.

Ocean The seabed, water and air space above the water between 3nm and 12nm (the Australian Territorial Sea) offshore.

ORB Offshore rescue boat.

Other An uncommon known activity not otherwise listed (e.g., paragliding, jogging).

Patrol Service undertaken to monitor activities in/around an aquatic environment and respond accordingly through either preventative actions or rescue operations.

Patrol flags Red and yellow horizontally divided flags which are set after performing a risk assessment to determine the most suitable area for swimming. The flags identify a zone for swimming and bodyboarding within a patrolled location.

Patrolled location A location supervised by a lifesaving service.

Preventative action Direct action taken to reduce or eliminate the probability of a specific rescue, first aid or other reportable incident from happening in the future.

PWC Personal water craft, also known as a jet ski.

Rescue The retrieval of a person in distress, delivering them to a place of safety and the application of first aid and basic life support as may be required.

Resuscitation Prevention or restoration of life by establishing and maintaining a person's airway, breathing and circulation.

RIB Rigid-hull inflatable boat.

Rip current A seaward flowing current of water moving through a surf zone.

River A natural stream of water flowing into an ocean, lake or other body of water.

Rock/Cliff A rock platform that may or may not have a high steep face.

Rock fishing The act of attempting to catch fish from a coastal rock platform.

Rock shelf A section of rock above or below the water level that projects out from the coast.

RWC Rescue water craft.

Scuba diving Swimming underwater with the aid of scuba equipment for recreational or commercial purposes.

Service season and hours Vary between states due to climatic factors, but in the context of this report, the season is for the period July 2019 to June 2020.

Snorkelling Swimming with a snorkel and face mask. Includes freediving and spearfishing.

Sovereign waters The seabed, water and air space above the water between 12nm and 200nm (the Australian Contiguous, Exclusive Economic and Fishing Zones) offshore.

Surfcom SLS radio communications centre that assists in managing the communications of lifesaving operations and data collection.

Surf lifesaver An individual who undertakes patrols at a beach or other aquatic environment. They are typically a nonsalaried member qualified in public safety and aquatic rescue.

Surf Life Saving Club A SLS affiliated not-for-profit organisation that has volunteer members who provide coastal safety services to the community.

Swimming Moving through water by moving the body or parts of the body.

Territorial seas The seaward limits of Australia's maritime zones, from the coastline to 12nm from the low tide line.

Total Service Plan An assessment of current and future lifesaving resources, trends, national blackspots and coastal safety issues combined with evidence-based mitigation strategies to address these issues.

Toxicity The degree to which a chemical substance or combination of substances is toxic or poisonous to an organism. In the context of this report, toxicity refers to alcohol or drug used by a victim.

Unintentional fatality Deaths other than drowning deaths (such as medical incidents, injury, accidents, or marine creature), excluding homicide and self- harm related incidents.

Wading Walking through water while partially immersed.

Watercraft A piece of non-powered recreational equipment used in water. Examples include surfboards, stand-up paddle boards, bodyboards, windsurfers or kayaks.

REFERENCES

METHODOLOGY

The SLSNSW Coastal Safety Report 2020 contains information on community behaviours and attitudes to the coast; SLSNSW capability and membership capacity; rescues and emergency response; and coastal and ocean drowning deaths and other coastal fatalities that occurred in New South Wales' waters from 1 July 2004 to 30 June 2020. This information is correct as of 12 August 2020. All care has been taken to ensure that the statistical information included within this report is correct. However, pending the outcome of ongoing coronial investigations and as SLSNSW update their operational information, this data may be amended. Data in figures may not always add up to 100% due to rounding. Mortality rates were calculated using the number of deaths divided by the population (per 100,000) from the Australian Bureau of Statistics, while comparative activity mortality rates used the number of coastal participants in New South Wales (per 100,000 participants), as estimated by the National Coastal Safety Survey (NCSS).

THE AUSTRALIAN COMMUNITY ANALYSIS

Information about community swimming ability, behaviours and attitudes to coastal safety, risk perceptions, safety strategies and rescues was gathered from the NCSS. Conducted by Omnipoll Market Research, the latest survey was run online from 9 to 21 April 2020 with a national sample of 1,587 respondents aged 16 and above. The study was carried out in compliance with AS-ISO 20252: Market, Social and Opinion Research. To reflect the population distribution, results were post-weighted (on age, gender, geographic strata, and education) and projected to Australian Bureau of Statistics data. The Australian population aged 16 and above (the reference population for this survey) is 18,712,000. The relevant statistics for New South Wales were extracted to undertake the analyses in this report.

CAPABILITY AND INCIDENT ANALYSIS

SurfGuard, the Incident Report Database (IRD), and SurfCom management system (SurfCom) are web-based applications and part of a suite of applications that enable members, SLS Clubs, SLS Branches, SLSNSW, and SLSA to enter and access SLS operational, capability, educational, and administrative data. Information was extracted from SurfGuard to identify how many rescues were performed by volunteer surf lifesavers and lifeguards during 2019/20, and how many active surf lifesavers and award holders there were during 2019/20. Information on assets and services were also gathered.

DROWNING AND FATALITY DATA ANALYSIS

SLSA collects incident data from SurfGuard, the IRD, SurfCom, the National Coronial Information System (NCIS) and by monitoring media reports for coastal and ocean incidents. The information is then verified by SLSNSW. The following variables are used to match fatal incidents from more than one data source: incident date, location, age, gender, and incident description. The NCIS is considered the 'gold standard' when there is a discrepancy in the detail collected from different data sources. Incidents are excluded as a drowning death if they are reported as 'intentional deaths', they occur at inland locations, or drowning/immersion' is not a contributory factor as noted by the coroner. Coastal incidents that are deemed intentional or not due to drowning/immersion are logged as coastal fatalities instead. The authors are responsible for the use made of the data in this report.

DROWNING DATA LIMITATIONS

Over years of investigation as part of the NCIS process, some cases are amended prior to their closure, resulting in changes to the classification of cases in our datasets. Therefore, the number of coastal drowning deaths published in this report may be different from annual totals previously reported. In an effort to produce a timely report on our current year's data we acknowledge that these figures will change. Each year, the changes that occur in the previous year's report will be made transparent. The data in this current report are not the final figures as 64% of 2019/20 New South Wales fatal incidents (drowning deaths and coastal fatalities) remain open cases and 22% of 2019/20 cases do not have a cause of death (COD) listed. Once NCIS closes a case, SLSA modifies those with unknown intent and those where the cause of death is not drowning, from 'coastal or ocean drowning death' to 'coastal fatality'. Bars of two different colours are used to illustrate the incidents where a COD has not been listed on NCIS in Figure 34 and Figure 42. The incidents are included in our annual totals and analysis, and they will remain so until a COD is listed other than drowning/immersion.

SUGGESTED CITATION

Surf Life Saving Australia and Surf Life Saving New South Wales, 2020. *Surf Life Saving New South Wales Coastal Safety Report 2020*. Surf Life Saving, Sydney.

REFERENCES

- Australian Bureau of Statistics, 2020. *Australian Demographic Population Statistics*. Accessed on 18 August 2020 from: https://www.abs.gov.au/Population
- SLSA National Coastal Safety Survey (NCSS2014, 2015, 2016, 2017, 2018, 2019, 2020).
- Newspoll/Omnipoll Online Omnibus April 2014, 2015, 2016, 2017, 2018, 2019, 2020.
- SLSNSW Annual Reports (2009-2020).

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SLSNSW also wish to thank the NSW Government, in particular Resilience NSW, NSW Department of Primary Industries, NSW Ministry of Health, and Office of Sport for funding essential coastal surveillance, public safety, and drowning prevention programs and initiatives. In addition, SLSNSW would like to thank coastal Local Government Areas, NSW National Parks and Wildlife Service, and SLSNSW major partner ClubsNSW.

Finally, thanks to the Surf Life Saving Clubs, Surf Life Saving Branches, Support Operations, and other emergency services in New South Wales for their efforts to prevent drowning and injury on our coastline.

This report was compiled by Surf Life Saving Australia and Surf Life Saving New South Wales, in particular the following: Shane Daw, General Manager Coastal Safety; Jasmin Lawes, Researcher; Nicole Cooney, Project Coordinator Coastal Safety; Annabel Ellis, Research Assistant; and Luke Strasiotto, Lifesaving Officer (Surf Life Saving Australia). Nick Mulcahy, Coastal Risk and Research Manager; Chris Twine, Coastal Risk and Research Coordinator; Elise Hancock, Senior Graphic Designer; Paul Hardy, UAV Operations Coordinator; Brent Manieri, Operations Manager Public Safety; Chris Smyth, Digital and Communications Manager; and Donna Wishart, Communications and Engagement Manager (Surf Life Saving New South Wales). The maps were produced by Flat Earth Mapping.

Design: Melissa Conchar and Nicole Cooney

Australian Government
Australian Institute of Health and Welfare

NCIS

CONTACT INFORMATION

SLSA and SLSNSW receive funding from the Australian Government and NSW Government to commence valuable initiatives and programs. However, we rely on the generosity of the community and corporate support to ensure they continue.

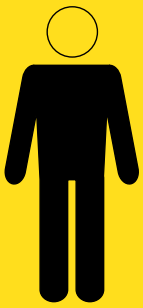
To help Surf Life Saving please donate to:
Surf Life Saving Foundation— slsfoundation.com.au

For more information:
Surf Life Saving New South Wales—surflifesaving.com.au
Surf Life Saving Australia—sls.com.au

COASTAL SAFETY REPORT

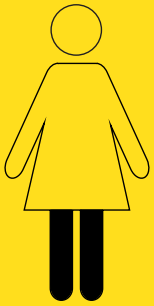
SNAPSHOT

COASTAL AND OCEAN DROWNING DEATHS



88%
MALE

12%
FEMALE



31%
BOATING AND PERSONAL WATERCRAFT

UNINTENTIONAL COASTAL FATALITIES (NOT DROWNING RELATED)

36%
LESS THAN 1KM FROM A SLS SERVICE

47%
AT THE BEACH

SURF LIFE SAVING NSW AND AUSTRALIAN LIFEGUARD SERVICE

599
SURF EMERGENCY RESPONSE SYSTEM ACTIVATIONS

3,178
RESCUES

11,954
FIRST AIDS

749,255
PREVENTATIVE ACTIONS

NB: Arrows indicate the direction of change from last year's statistics