

# SURF LIFE SAVING NSW COASTAL SAFETY REPORT 2017

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SURF LIFE SAVING  
**NEW SOUTH WALES**

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# INTRODUCTION



On behalf of the Board of Surf Life Saving NSW, it's a pleasure to present the 2017 NSW Coastal Safety Report.

After releasing the inaugural report in 2016, as an organisation we felt it important to continue to provide NSW-specific data and analysis to inform policy makers and other stakeholders as we work together toward reducing the coastal drowning toll.

It has been another busy year for our volunteer surf lifesavers. During the course of the season our members performed:

- 5000 rescues
- 127,000 preventative actions
- 15,500 first aid treatments

It is pleasing to see that after a record 53 coastal drownings in 2015/16, this number has fallen to 31; however, it is still a frustratingly high number of tragedies for those of us on the frontline of lifesaving service provision in NSW.

We continue to see males dominate the drowning statistics and an additional concern this year is a rise in drownings in the 50-59 year age bracket. While it is unclear yet if this indicates a trend, it is something to be monitored and addressed in drowning prevention efforts going forward, in light of Australia's ageing population and increased participation rates in recreational water activities.

We believe that this Coastal Safety Report will prove to be a valuable resource for our members, government, sponsors, partners, researchers, water safety agencies, community groups, and the media to inform them about key drowning data and prevention initiatives being undertaken by Surf Life Saving in NSW.

As lifesavers we pride ourselves on our ability to assess, improve and innovate the ways in which we fulfil our duty of saving lives, both between and beyond the flags.

I know that every member of our organisation is committed to playing their part in saving lives and protecting the community against the tragic consequences of coastal drowning in NSW. We thank them for their vigilance and service.

A stylized, handwritten signature in black ink, consisting of several fluid, connected strokes.

**Stuart Harvey**

Director of Lifesaving  
Surf Life Saving New South Wales





# COASTAL DROWNING

Over the last century, volunteer surf lifesavers have become a vital part of the fabric of summer as they uphold a proud tradition of keeping people safe on our beautiful beaches.

It's a legacy that our membership guards fiercely and whether you are a rookie on your first ever patrol or a bronzed veteran spinning yarns in the clubhouse, this sense of community duty and of the power of the red and yellow flags is ingrained.

The 2016/17 drowning death toll of 31 is a reduction from the record high (53) of the previous year. Unfortunately NSW waters remain among the most dangerous in Australia and it is something that everyone involved in the lifesaving community is actively trying to reduce.

A key part of Surf Life Saving training is the ability to recognise and intervene in situations before they escalate to the point where major injury or death occurs.

Mastering this approach takes time and it is one of the reasons the men and women who proudly dress in the red and yellow each summer are widely held in high esteem.

Moving forward, water safety education remains a key focus for Surf Life Saving NSW, and we will continue to work with the State Government and other stakeholders to ensure that the wider community are aware of the dangers of the ocean. A long-term and sustained reduction in coastal drowning deaths remains a major priority.



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**COASTAL DROWNING DEATHS (2016/17)**

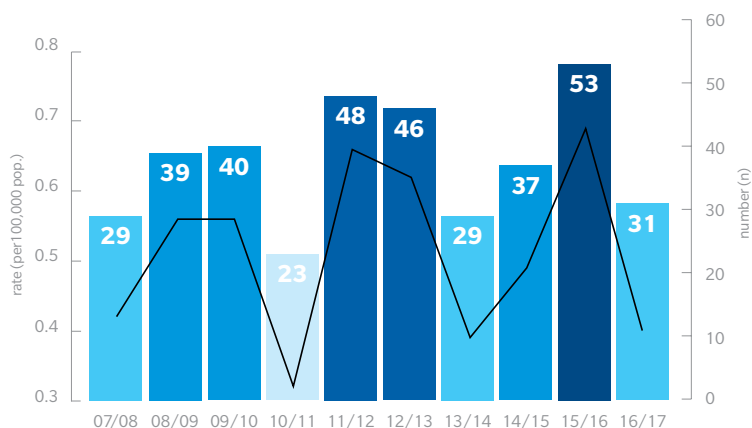


Figure 01

## 10 YEAR DROWNING DEATH

New South Wales coastal drowning death numbers and crude drowning rates 2007-2017. The 10 year average rate per 100,000 population is 0.51 (n=38), while the rate for 2016/17 is 0.40 (n=31).



## CASE STUDY: A REFLECTION ON DROWNING NUMBERS

After a record breaking 12 months where there were 53 coastal drowning deaths, 2016/17 has seen that number decrease significantly.

As a lifesaving organisation this reduction in drownings is encouraging, however a focus remains on reducing this figure further.

Again this patrol season there were no drownings recorded between the red and yellow flags and lifesavers continue to emphasise the need for people to swim at patrolled locations.

Sadly there were 31 drowning deaths in NSW in the period from July 1 2016 through to June 30 2017. With a number of cases still under investigation by the Coroner, these numbers could be adjusted at a later stage.

Over half of all coastal drowning deaths recorded this season were as a direct result of either swimming/wading (n=13) or rock fishing (n=6) which were the two leading activities at the time of drowning death for a second year in a row.

It must be noted however that there has been a reduction in overall numbers this year, from 16 swimmers and 10 rock fishers in 2015/16.

These statistics are consistent with the corresponding fall in the overall drowning data but nevertheless both swimming and rock fishing remain the leading activities relating to coastal drowning deaths in NSW.

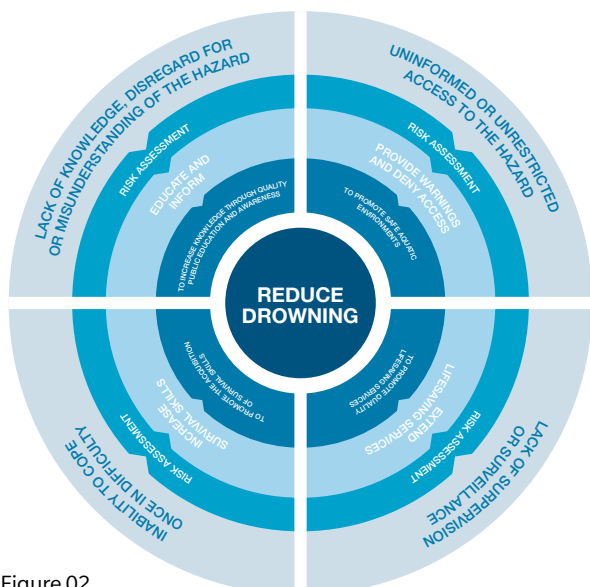


Figure 02

### THE INTERNATIONAL LIFE SAVING FEDERATION DROWNING PREVENTION CHAIN

Depicting the four factors recognised as contributing to accidental drowning deaths and the broad mitigation strategies that should be applied to reduce drowning deaths.

#### A Busy Summer

The summer months December 1 – February 28 inclusive was the peak period for our volunteer surf lifesavers this season.

Good weather attracted 3.6 million visitors to the beach throughout this time and with the warm conditions extending through to late autumn it was exceptionally busy for lifesaving providers.

Tragically there were 15 coastal drowning deaths during the three months of summer and of these 90% involved men.

Additionally there were also 2,529 rescues performed and 12,307 first aid treatments administered by volunteers during this time, consisting of everything from marine stings to broken bones.

Surf Life Saving NSW President David Murray praised the efforts of the volunteers.

"It's been a busy but successful summer and our members did a fantastic job keeping a watchful eye on beach goers everywhere.

"They consistently demonstrated why Surf Life Saving is regarded as part of the summer fabric in this country."

# WHO IS DROWNING?

In preparing this report we have analysed the Surf Life Saving NSW (SLSNSW) drowning and incident database in order to define those demographics that are at the highest risk of drowning. From reviewing this information, conclusions can be drawn which can assist agencies develop targeted drowning prevention strategies. The 2016/17 year recorded a total of 31 coastal drowning deaths, which is 7 (18.42%) below the 10 year average of 38 fatal drownings a year.

**Age:** The 2016/17 data shows the 20-29 year age bracket accounted for 29% (n=9) of the coastal drowning death total, the 30-39 years age group accounted for 3.2% (n=1), and the 50-59 year age bracket accounted for 29% (n=9) of coastal drowning deaths.

The 10 year trend confirms the age grouping of 20-29 years is at higher risk, making up 23% (n=87) of coastal drowning deaths, however the 2016/17 season showed that those in the 50-59 year age bracket represented an increased coastal drowning death incidence of 29% (n=9), while the 50-54 year bracket accounted for 23% (n=7), more than twice the 10 year average representation (10%, n=38).

**Gender:** Males have been identified as being at far greater risk of coastal drowning death than females, accounting for 89%

(n=333) of all coastal drowning deaths over the last 10 years. This trend has continued in 2016/17 with males accounting for 90% (n=28) of coastal drowning deaths. From this we can draw a conclusion that males are more likely to put themselves in situations involving greater risk around water. As males continue to make up the vast majority of coastal drowning deaths in NSW, it is important that drowning prevention strategies continue to target this section of the community.

**Cultural Background:** The 10 year data shows that Australian citizens account for the greatest proportion of coastal drowning deaths in NSW (40%, n=150). However in 2016/17, residents of Asian countries make up the greatest proportion of coastal drowning deaths in NSW (26%, n=8) while Australian citizens account for 23% (n=7).

The 10 year trend indicates that 84% (n=314) of coastal drowning deaths have been residing in Australia at the time of the incident. This statistic is contrary to the common perception that the majority of people who drown in coastal waters are either international visitors or foreign residents. It is however reasonable to say that based on exposure to coastal hazards, international visitors and foreign residents are over represented in the 10 year drowning statistics (11%, n=40).

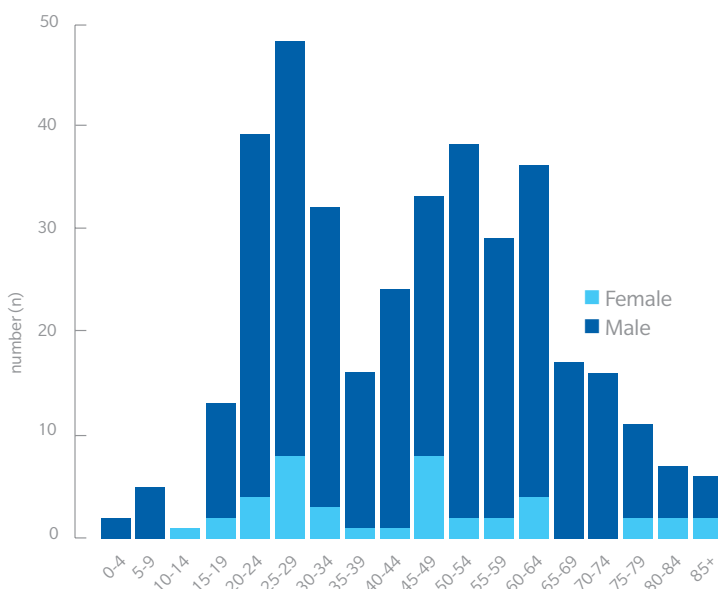


Figure 03

## 10 YEAR DROWNING DEATH AGE AND SEX

Between 2007-17, the age group representing the highest rate of fatalities is 25-29 years (n=48), followed by 20-24 years (n=39). 89% (n=333) were male.

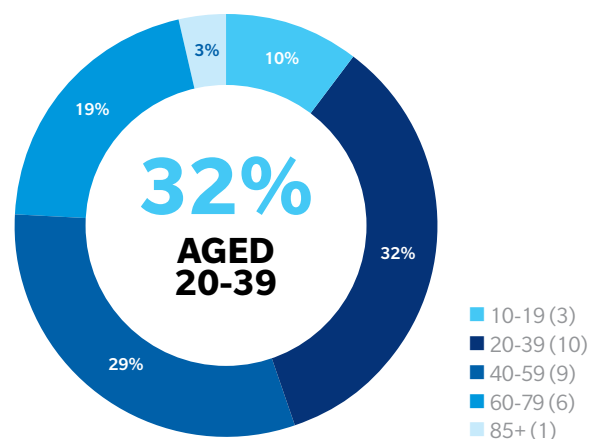


Figure 04

## 2016/17 DROWNING DEATH AGE

In 2016/17, the 20-29 years age bracket represented 29% (n=9) of drowning deaths. This is an increase on the 10 year average of 23% (n=87).

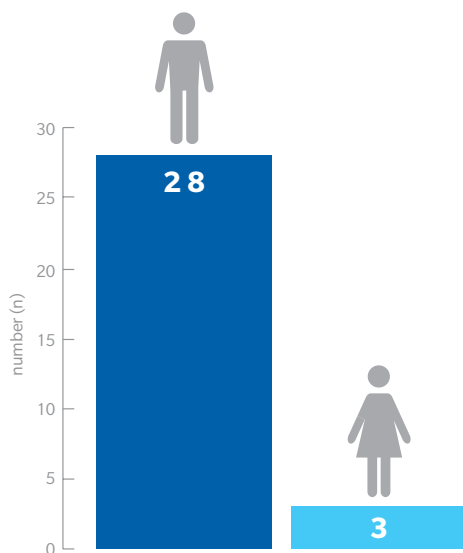


Figure 05

#### 2016/17 DROWNING DEATH SEX

In 2016/17, 90% (n=28) of fatalities were male, an increase on the 10 year average.

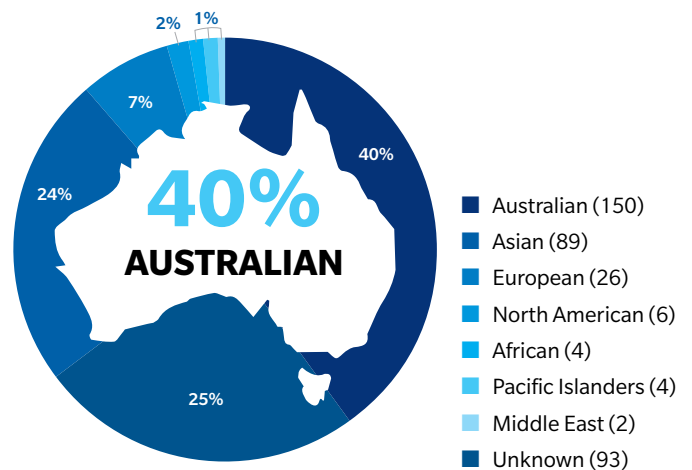


Figure 06

#### 10 YEAR DROWNING DEATH REGIONAL CITIZENSHIP

40% (n=150) of coastal drowning deaths were Australian citizens. The citizenship of 25% (n=93) of fatalities has not been confirmed.



# WHEN ARE THEY DROWNING?

The red and yellow flags mark the supervised swimming area at 218 beaches along the NSW coastline. Whether the supervision is provided by volunteer lifesavers or paid lifeguards, these locations are the safest places to swim, as evidenced by the fact that there have been no coastal drowning deaths in NSW between the red and yellow flags in the 10 year data record. The dates, times and locations of lifesaving patrols are determined by analysing beach usage trends, incident history as well as service capabilities in order to respond to the changing needs of the NSW community.

**Months:** Unsurprisingly, there is a correlation between the number of visitors to the coast (ie. exposure) and the rate of coastal drowning deaths. With increased exposure there is inevitably greater risk. This is why the scarce resources available to organisations tasked with preventing drowning in NSW are usually focused on locations with high visitation levels.

In NSW, the summer months of December, January and February see the greatest number of people attending beaches. Of the 31 fatal coastal drowning deaths recorded in the 2016/17 season, almost half (48%, n=15) occurred during the months of summer. This is an increased percentage compared to the 10 year average of 35% (n=131) of coastal drowning deaths occurring during this period. December 2016 accounted for 26% (n=8) coastal drowning deaths, which is a proportional increase compared to the 10 year average for December of 10% (n=39) over the last 10 years.

**Days:** During 2016/17 the highest rate of coastal drowning deaths occurred on Sundays. These figures are consistent with the 10 year trend for coastal drowning deaths in NSW.

**Attendance:** While attendance figures were down in comparison to the previous year (2015/16), the distribution of attendance over 2016/17 remained in line with the long term averages. In 2016/17 56% (n=3,763,887) of beach visitations occurred during the summer months and 27% (n=1,815,391) during spring. It is interesting that autumn has accounted for only 17% (n=1,117,339) of beach visitations however 25% (n=8) of coastal drowning deaths occurred during this period.

An estimated 6,697,024 people visited patrolled beaches in NSW during 2016/17. A total of 3,763,887 (56%) people made their way to the beach between December and February.

Over the Christmas to New Year period (24th Dec – 2nd Jan) 15% (n=1,029,891) of the season's total attendance was recorded. Despite this, the overall attendance for 2016/17 was down from 2015/16.

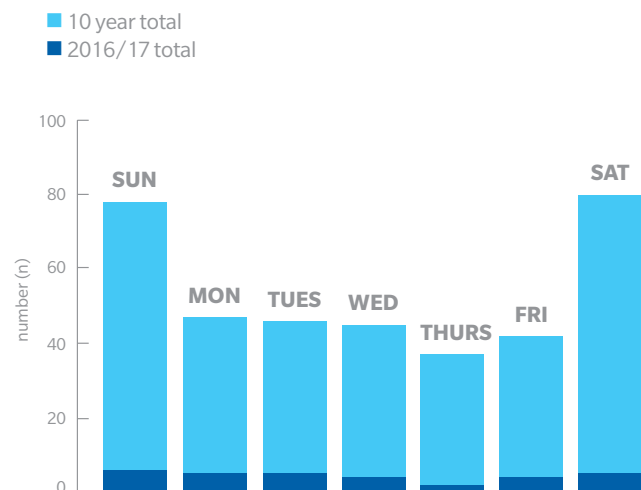


Figure 07

## 10 YEAR vs 2016/17 DROWNING DEATH DAY

Over the past 10 years (2007-17), the majority of coastal drowning deaths have occurred on Saturday and Sunday (42%, n=158). In 2016/17, 36% (n=11) occurred on the weekend and 10 fatalities occurred on Monday or Tuesday.



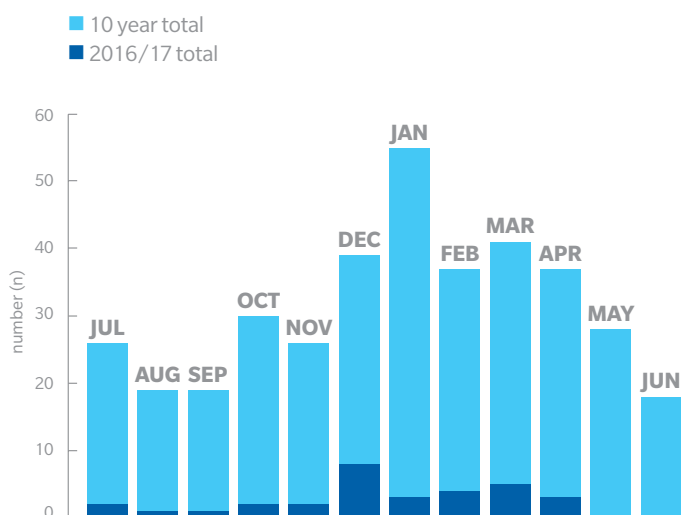


Figure 08

#### 10 YEAR vs 2016/17 DROWNING DEATH MONTH

The highest number of coastal drowning deaths, in the last 10 years (2007-17), occurred in the month of January (n=55); this is followed by March (n=41), December (n=39), February (n=37) and April (n=37). This is noted in the 2016/17 incident breakdown.

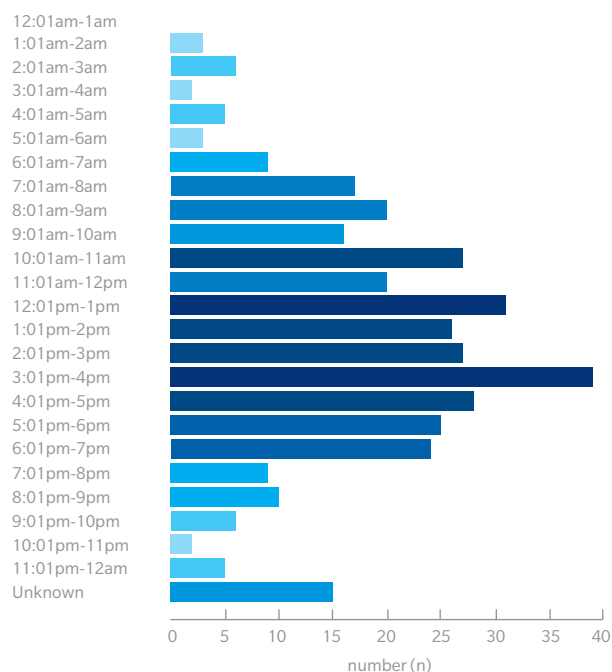


Figure 09

#### 10 YEAR DROWNING DEATH TIME

Between 2007-17, there were 360 coastal drowning deaths (96% of the total) with recorded times. 47% (n=176) occurred between 12:01pm and 6:00pm.

# HOW ARE THEY DROWNING?

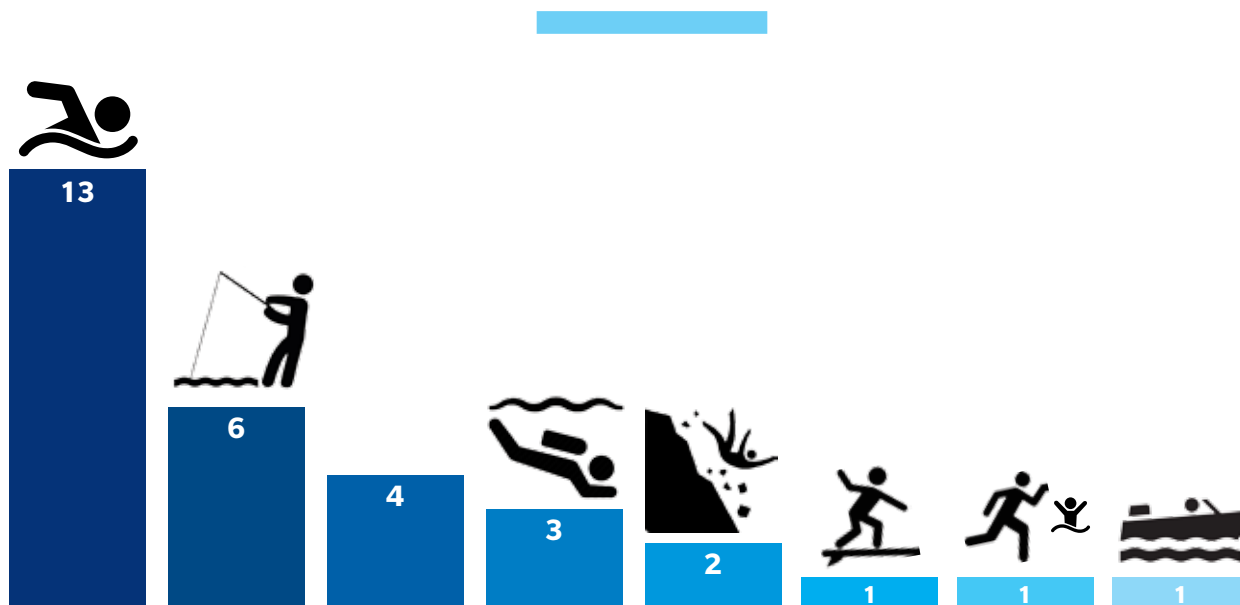


Figure 10

## 2016/17 DROWNING DEATH ACTIVITY

In 2016/17, swimming/wading was the most common activity being undertaken at the time of death 42% (n=13). Rock fishing made up 19% of activities (n=6), however this was a reduction on the 10 year average of 8 incidents per year.

- Swimming/wading
- Rock Fishing
- Unknown
- Diving/ Snorkelling
- Rock / Cliff related
- Watercraft
- Attempting a rescue
- Boating

The activity being undertaken by a person at the time they get into difficulty around water can provide important insights into the drowning prevention strategies which are best suited to address the issues. Combined with other key metrics, water safety agencies can begin to build a comprehensive view of coastal drowning death in NSW from which we can draw conclusions that will inform the development of targeted drowning prevention strategies.

In 2016/17, the activity of swimming/wading accounted for 42% (n=13) of coastal drowning deaths, which is higher than the 10 year average of 32% (n=121). The activity of swimming/wading remains the most common activity being undertaken at the time of coastal drowning death in NSW for 2016/17. Although there have been three fewer coastal drowning deaths related to the activity of swimming/wading in 2016/17 compared to 2015/16, this is in line with the overall reduction in total coastal drowning deaths.

Historically rock fishing is the second most common activity when a coastal drowning death occurs. In 2016/17 there was a total of 19% (n=6) of coastal drowning deaths related to the activity of rock fishing. This statistic is consistent with the 10 year average (22%, n=82). Rock fishing remains an activity which is over-represented in coastal drowning death data, despite the continued and persistent efforts of water safety and emergency response agencies as well as fishing industry peak body representative groups.

More recent initiatives from the NSW Government includes the introduction of legislation mandating lifejackets for a 12-month trial period in the Randwick local government area. While SLSNSW advocates for drowning prevention strategies to consider how best to address all quadrants of the drowning prevention chain, lifejacket use for the activity of rock fishing is a key strategy. With improvements in the design and manufacture of lifejackets there are many fit-for-purpose options available in the market that comply with the Australian Standards and the NSW legislation. SLSNSW maintains its consistently advocated position for the Rock Fishing Safety Act (2016) to be expanded to include the requirement for lifejackets to be worn along the entire coastline of NSW.

22%

## ROCK FISHING RELATED DROWNING DEATHS (2007-17)

## CASE STUDY: THE IMPORTANCE OF LIFEJACKETS

In November 2016 the NSW Government ratified the Rock Fishing Safety Act which paved the way for a 12 month trial of the mandatory wearing of lifejackets for fishers in the Randwick Local Government Area.

While the trial period will continue until November 30 2017 after which it will be reviewed, the Act provides the scope for it to be introduced into other locations considered to be high risk.

Currently there is a moratorium on fines for fishers found not to be wearing a lifejacket and local law enforcement personnel are educating people about the importance of this lifesaving equipment.

### A Simple Truth – Lifejackets Save Lives

The Surf Life Saving community supports this trial, and remains concerned that the message about the importance of lifejackets is still being ignored by rock fishers despite a continual emphasis on safety messages through a variety of mediums.

Since July 2015 there have been 16 rock fishing fatalities in NSW coastal waters with a common factor across them being that not one victim was wearing a lifejacket at the time of getting into difficulty.

Lifesavers continue to be frustrated that these deaths are preventable and rock fishers are putting not only their own lives at risk but also those who ultimately go to their aid.

An edited media release from March 2017 when there were two incidents in the space of a single morning, demonstrates how important floatation devices are to saving lives.

### Rock Fisher Drowns On Northern Beaches

*An early morning fishing trip turned to tragedy on Sunday with one man drowning and his friends requiring rescuing after they were washed into the water near North Head.*

*The group were fishing at Bluefish Point when they got into difficulty shortly before 6:30am.*

*Following reports of at least three people in the water, a multi-agency response was launched with Water Police, Paramedics, and Sydney Northern Beaches Duty Officers all attending.*

*All three men were pulled from the water by Police with two wearing lifejackets.*

*The third man understood to be a 23-year-old foreign national was not wearing a lifejacket, and was unresponsive when he was rescued.*

*CPR was immediately commenced with the first responders rushing him back to shore. Unfortunately all efforts to revive the man were unsuccessful.*

*In a separate incident also on Sunday at Cape Solander near Botany Bay a man aged in his 20s narrowly escaped drowning while rock fishing thanks to the vigilance of his friend who threw him an angel ring which was located nearby.*

*The man was washed off the rock platform shortly before 7am with Council Lifeguards, the Off Shore Rescue Boat, a Sydney Duty Officer, Paramedics, and Police all tasked to attend.*

*He wasn't wearing a lifejacket at the time, but emerged from the water unscathed thanks to the fortuitously placed lifesaving device.*

Figure 11

### 10 YEAR DROWNING DEATH ACTIVITY

Activity	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Total
Swimming	11	10	15	9	14	11	7	15	16	13	121
Rock Fishing	7	9	12	4	11	8	8	7	10	6	82
Boating	2	3	3	3	4	6	3	6	5	1	36
Unknown	4	7	1	1	2	4	2	2	1	4	28
Watercraft	1	1	1	4	5	5	1	3	5	1	27
Diving/Snorkelling	1	2	2	1	5	4	2	3	6	3	29
Attempting a rescue	0	3	4	1	2	2	4	0	3	1	20
Rock/cliff related	3	1	1	0	4	4	1	1	5	2	22
Other	0	1	1	0	1	2	1	0	2	0	8
Fishing	0	2	0	0	0	0	0	0	0	0	2
Total	29	39	40	23	48	46	29	37	53	31	375



# DROWNING DEATHS HEAT MAP

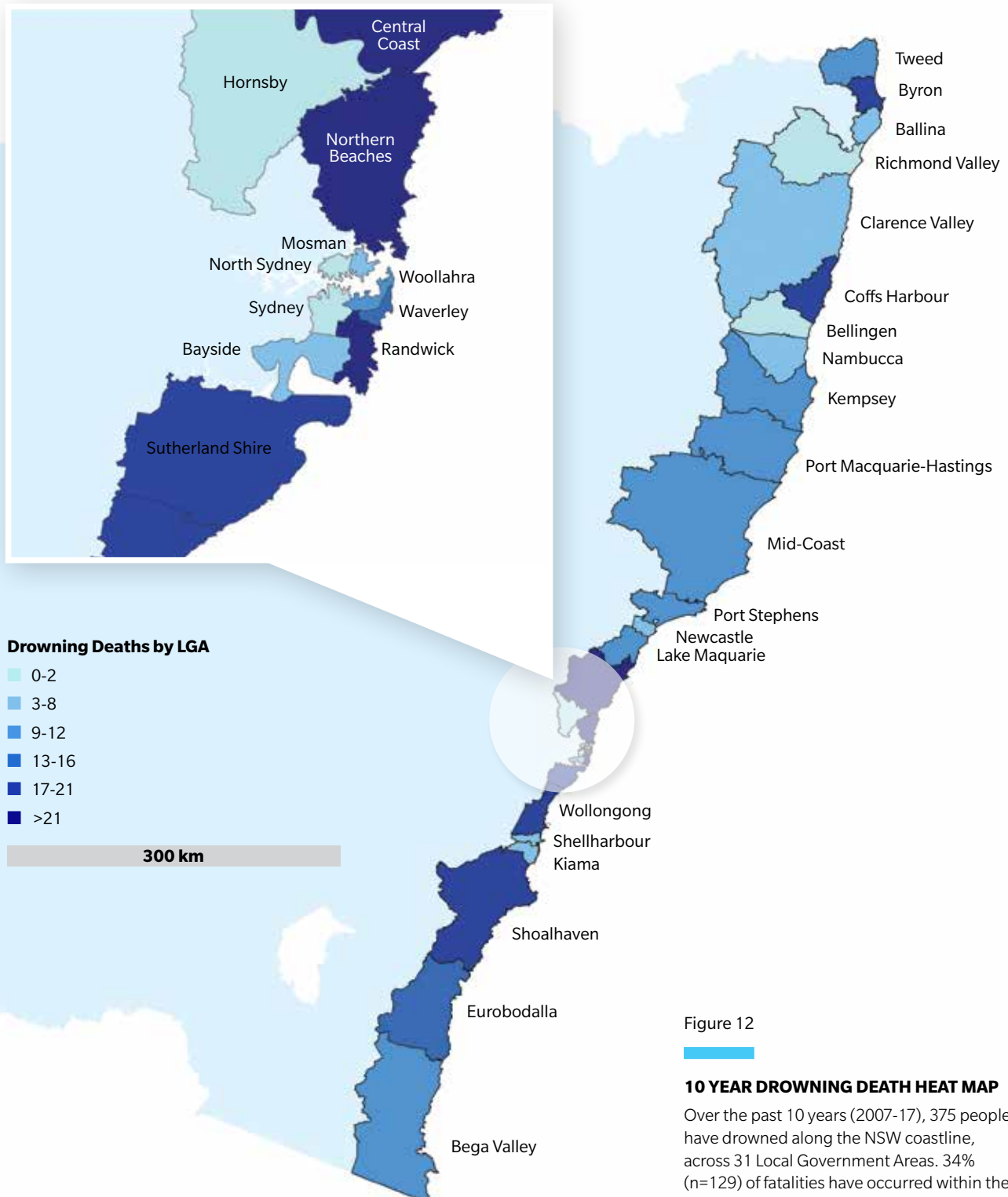


Figure 12

## 10 YEAR DROWNING DEATH HEAT MAP

Over the past 10 years (2007-17), 375 people have drowned along the NSW coastline, across 31 Local Government Areas. 34% (n=129) of fatalities have occurred within the Sydney Metropolitan Area.

# WHERE ARE THEY DROWNING?

Anecdotal evidence continues to support the premise that people are recreating further away from patrolled locations and so there is a continuing need for prevention strategies to address this issue. Fatal drowning data supports this anecdotal evidence when we look at the distances from patrolled locations where fatal drownings occurred.

In the 2016/17 year 45% (n=14) of coastal drowning deaths were at locations where no active patrol was present or nearby. This is slightly lower than the 10 year average of 49% (n=184).

In the 2016/17 season, 23% (n=7) of coastal drowning deaths occurred within 1km of a patrolled location at the time of the incident. However approximately half of these incidents appeared to have occurred as a result of a medical complication and/or were at locations that were unobservable (e.g. rock platforms around headlands). This is a slight increase from the 10 year average of 19% (n=72) of coastal drowning deaths occurring within 1km of a patrolled location at the time of the incident.

Another 10% (n=3) of coastal drownings deaths occurred between 1km – 5km away from the patrolled location and the remaining 68% (n=21) occurred more than 5km away from an actively patrolled location. This trend is concerning as it may indicate that people are recreating further away from patrolled locations. Almost 80% (n=24) of coastal drowning deaths occurred at locations where a delay in response time could be expected and/or where the lifesaving service would not have been able to observe the person in distress.

Coastal drowning deaths which occur outside patrol hours are also a concern as the 10 year average currently sits at 49% (n=184).

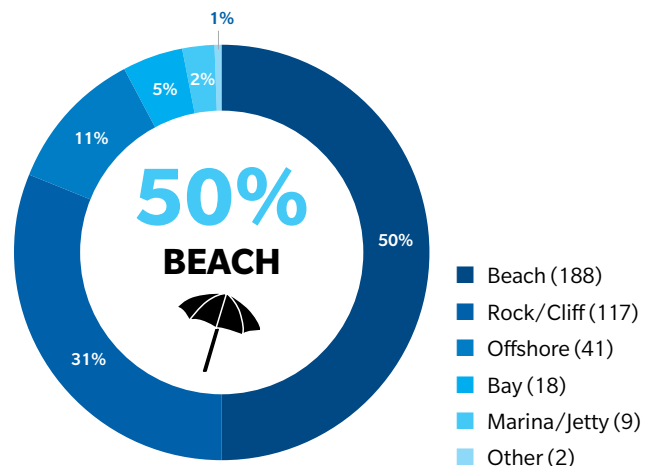


Figure 13

## 10 YEAR DROWNING DEATH LOCATION TYPE

In the last 10 years, the majority of coastal drowning deaths occurred at a beach (50%, n=188), followed by rock/cliff locations (31%, n=117). Despite an increase in the percentage of beach drowning deaths in 2016/17 (68%, n=21), the total number was lower than the previous year 53%, (n=28).

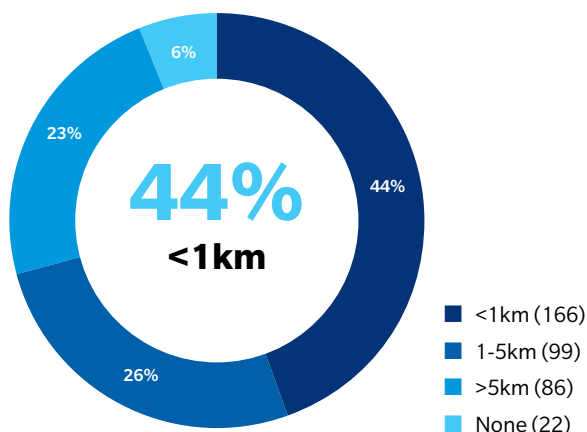


Figure 14

## 10 YEAR DROWNING DEATH DISTANCE FROM LIFESAVING SERVICE

In the past 10 years (2007-17), 44% (n=166) of coastal drowning deaths have occurred within 1km of a patrolled location irrespective of the time of day. 29% (n=108) of coastal drowning deaths occurred further than 5km from a patrolled location.

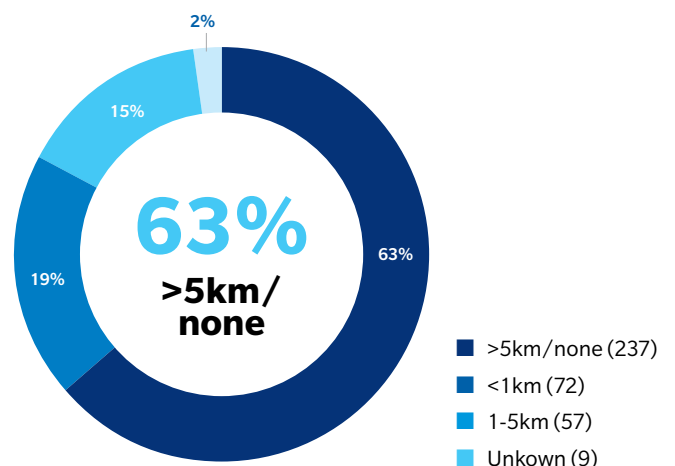


Figure 15

## 10 YEAR DROWNING DEATH DISTANCE FROM LIFESAVING SERVICE AT TIME OF INCIDENT

Over a 10 year period (2007-17), 63% (n=237) of coastal drowning deaths occurred greater than 5km from a patrolled location at the time of the incident. In 2016/17, 58% (n=18) of fatalities occurred greater than 5km from a patrolled location at the time of the incident.

# SERVING OUR COMMUNITY

The Surf Life Saving movement in NSW has a long and distinguished history dating back to the early years of the 20th century.

It has entered folklore how swimming in daylight hours was outlawed by the ruling establishment, and it wasn't until it was challenged in a very public manner by Mr William Gocher at Manly Beach in September 1902 and others whose names have been lost to history, that attitudes began to change. What quickly became apparent as more and more people entered the ocean was that Australians lacked the necessary skills to survive in this new environment.

From these humble beginnings the Surf Life Saving movement was born and from the start it was community oriented with a focus on preventing loss of life.

Though the equipment and techniques in use at the time can best be described as rudimentary, the volunteer ethos and dedication was clear.

Over the years the membership evolved as society changed. Women became surf lifesavers, the highly popular Nippers program was established, and the humble belt and reel made way for Inflatable Rescue Boats and drones, but at its core was one constant.

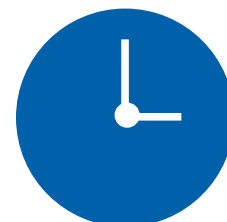
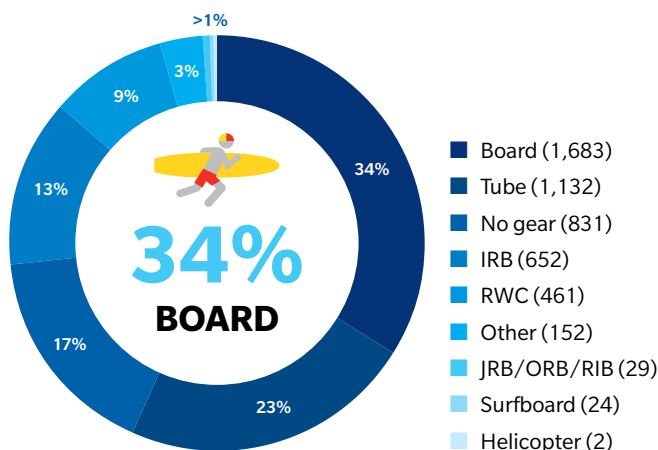
The desire to save lives and protect the community.



Figure 16

## 2016/17 RESCUES

In 2016/17, 34% (n=1,683) of rescues performed by surf lifesavers were conducted using a rescue board. 23% (n=1,132) of rescues were completed with a rescue tube and 17% (n=831) were conducted using no gear at all.



**650,078**  
VOLUNTEER PATROL HOURS  
2016/17





## A CASE STUDY - HONOURING PATROL MEMBERS

Each season over 21,000 active surf lifesavers patrol the beaches across NSW. With 129 clubs stretching from Pambula in the South through to Fingal Rovers near Tweeds Heads and a seven month patrol season it is a huge commitment to public safety on the part of our valued volunteers.

### The Importance Of Recognising Members

Each month all 11 Branches are invited to submit to Surf Life Saving NSW, rescues that they believe deserve to be recognised by the wider membership. From there, a committee is convened and one rescue is chosen for the prestigious NSW Rescue of the Month Award which honours these members. Following this announcement, the rescue is then put forward for National-level recognition. At the annual Awards of Excellence an overall Rescue of the Year is chosen from the monthly winners.

#### State Recognition For Camden Haven Lifesavers

A courageous rescue undertaken by Camden Haven surf lifesavers in April has been honoured with the Rescue of the Year Award at the Surf Life Saving NSW Awards of Excellence.



The drama began on Easter Saturday at South Beach, Dunbogan when a holidaying family from Sydney got into difficulty after patrol hours.

Samantha Morley and her husband Dominic Johnson were sitting on the beach watching their daughters enjoy some time in the surf when a large set of waves crashed through and the two girls lost their footing.

Both parents immediately went to the aid of the children, although it was just the start of a 90 minute ordeal for the Sydney mother who was washed out to sea.

Shortly before 4pm, NSW Police requested assistance from the Surf Life Saving NSW Operations Centre who contacted the emergency callout team from Camden Haven SLSC to respond.

Two of those who answered the urgent message were club members Phil Traves and Tony Worton. Both men raced down to the beach to prepare the Inflatable Rescue Boat (IRB) for launch.

In the spirit of Surf Life Saving and this small Mid North Coast club, they were joined by teenage members Jacob Worton (Tony's son) and Jay Toogood with Adam Toogood and Club President Michelle Garvan also coming to the rescue.

Phil and Tony launched the IRB while the others grabbed rescue gear and medical supplies and raced to the other end of the beach by car.

The IRB team successfully negotiated the powerful surf and were able to spot the stranded swimmer, pulling her to safety into the boat and returning her to shore.

Samantha went on to make a full recovery thanks to the prompt response by this skilled and courageous team of lifesavers.



**4,966**  
**RESCUES COMPLETED**  
**2016/17**



To view the full story, visit  
<http://bit.ly/2xlttCS>

# RESCUES HEAT MAP

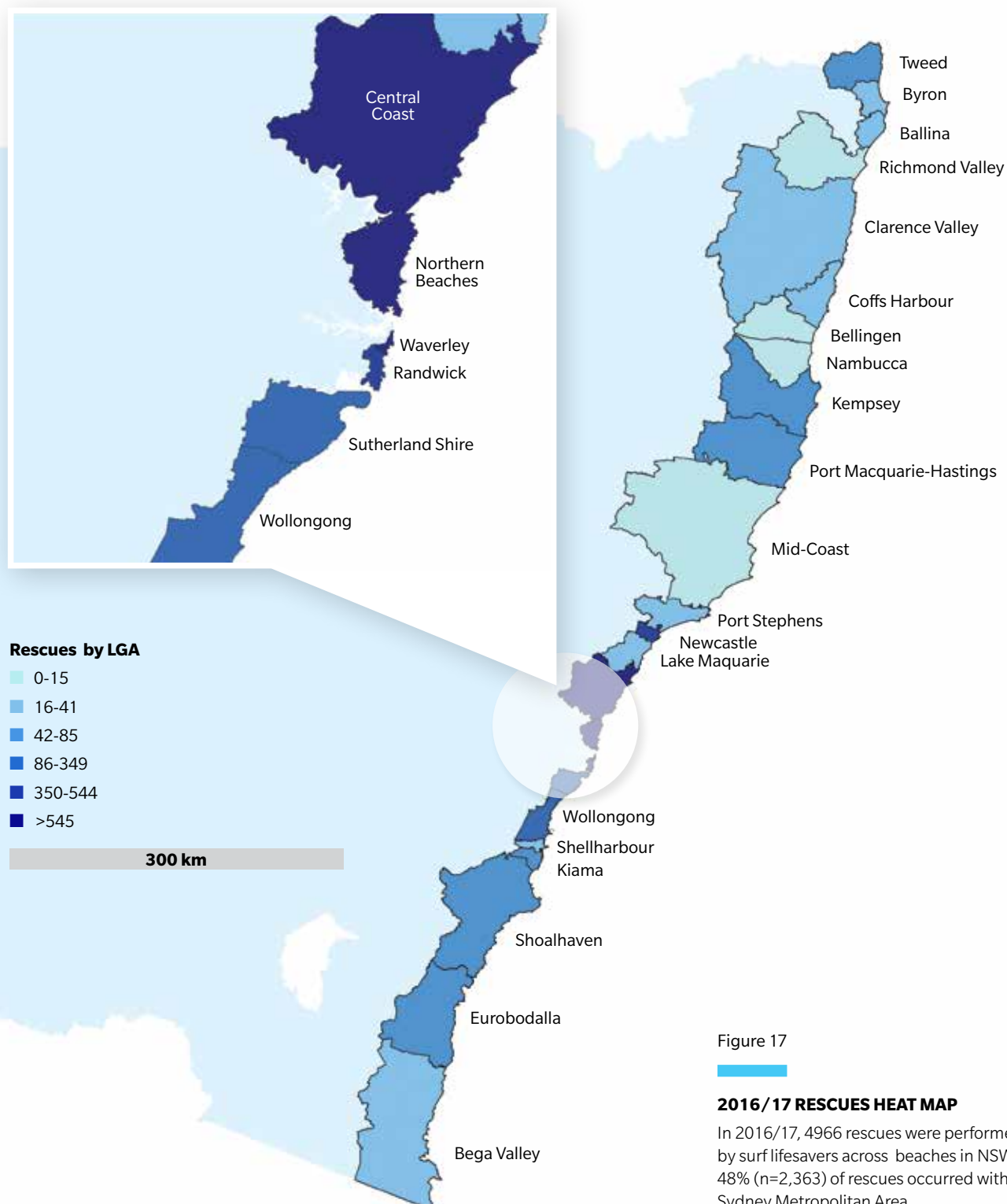


Figure 17

## 2016/17 RESCUES HEAT MAP

In 2016/17, 4966 rescues were performed by surf lifesavers across beaches in NSW. 48% (n=2,363) of rescues occurred within the Sydney Metropolitan Area.



## CASE STUDY: EYES IN THE SKY – LITTLE RIPPER

Surf Life Saving's commitment to technology and innovation is apparent in the way it has embraced the Little Ripper Project, with the unmanned aerial vehicles (UAV) set to become a familiar presence in skies over NSW in coming summers.

Over the past 18 months SLSNSW has been involved in a number of trials with this exciting technology as it has been continually refined to help lifesavers do what they do best; keep beachgoers safe.

Already a number of professional lifeguards from the Australian Lifeguard Service have been put through training while several intakes of volunteers have also completed the program.

### Training The Pilots

The idyllic coastal town of Port Macquarie is about to experience a technological revolution after the establishment of a new academy to train UAV pilots was formally announced earlier this year.

The potential of the Westpac Little Ripper and the smaller Mini Ripper is enormous with possible applications including shark spotting and being able to drop rescue equipment or survival gear to swimmers in distress.

This technology will undoubtedly become a vital addition to lifesaving service provision in future and will give volunteers and professional lifeguards "more eyes, in more places, more often" along our coastline.

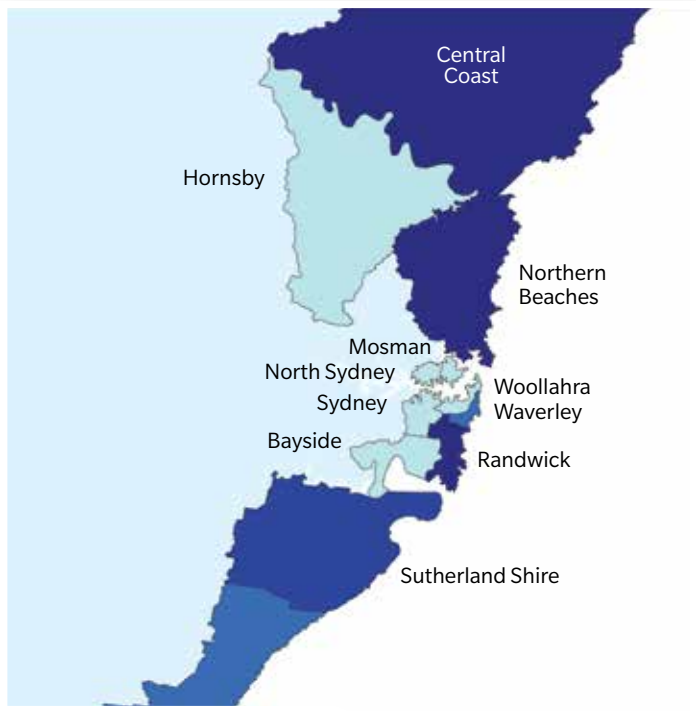
### Moving Towards The Future

*It is important to note that this technology will not replace frontline lifesavers but rather it will complement their skills and abilities. In addition those trained to operate UAVs will be at the forefront of one of the fastest growing industries in Australia and gain qualifications from the Civil Aviation Safety Authority (CASA).*

*It is intended that the Little Ripper Academy will continue to operate out of the Surf Life Saving NSW Northern Operations Centre in Port Macquarie and will provide professional training to selected candidates. One aspiration for the program is for it to complement a high school course that is currently being trialled on the Gold Coast which introduces students to the science of UAVs preparing them for a 21st century career.*



# AMBULANCE HEAT MAP



**Ambulance Requests per LGA**

- 0-3
- 4-8
- 9-17
- 18-28
- 29-38
- >39

300 km



Figure 18

**2016/17 AMBULANCE HEAT MAP**

In 2016/17, ambulance assistance was requested 546 times by Surf Life Saving Clubs. 42% (n=230) of ambulance requests were for services within the Sydney Metropolitan Area

## CASE STUDY: EDUCATING THE COMMUNITY

As one of the peak water safety agencies in the country, Surf Life Saving NSW takes the responsibility of educating the public about beach safety extremely seriously.

In addition to the annual Beach to Bush program which takes lifesaving skills to country primary schools, and is the largest of its type across Australia, the Education team at Surf Life Saving NSW works with a number of communities to help ensure that these critical skills are passed on to those most at risk.

It has continued working of working within “Blackspot” areas such as Western Sydney where young people have been over-represented in the drowning statistics. It has also continued to build and support strong relationships within culturally and linguistically diverse communities.

One example of this is the popular workshops for Chinese residents in the Hornsby Shire where SLSNSW has worked with other agencies to help provide theoretical and practical skills around the ocean in an effort to protect the community.

### Tragedy Prompts Cooperation

Tragically two international students from Nepal studying in Australia lost their lives during the 2016/17 season and this prompted the Nepalese Australian Association to reach out to Surf Life Saving NSW for assistance in helping provide safety messages to new arrivals unfamiliar with the challenges of the ocean.

### Working With Universities For Surf Safety

In recent years there has been an increased emphasis on educating international students so they have access to information which potentially could save their lives. Part of this effort has been taking the message directly to students during the traditional “O-Week” as this edited media release from February 2017 illustrates.

### Beach Safety Warning For Students

*As the 2017 cohort of international students continued to get accustomed to their new surroundings in Australia, Surf Life Savers took the message of beach safety directly to them in an effort to ensure their safety in the coastal environment.*

*Surf Life Saving NSW Academy Education Project Officer Joanne Massey said the presentations play an important role in taking surf safety messages to a wider audience.*

*“On the NSW coast it is not uncommon for children to be introduced to the beach and ocean very early in life. They learn about rip currents, what surf lifesavers do, and the importance of swimming between the flags from a very young age as well as having the opportunity to participate in the well-established and respected Nippers program.*

*“We provide international students with the best information possible to ensure that if they get into difficulty while taking a well-earned break from their studies they know what to do. They can then make safe surf practices and decisions as part of their beach routine,” she said.*

*Community educators delivered 8 presentations to over 1400 students at locations including the University of Sydney, University of Wollongong, Liverpool TAFE NSW - South Western Institute, Meadowbank TAFE - Northern Sydney.*



Federal MP Matt Thistlethwaite joins Nepalese residents at a Surf Awareness Day at Sydney's Maroubra Beach.

# FIRST AID INCIDENTS

In the 2016/17 season Surf Lifesavers made 546 requests for assistance through the ambulance service due to injuries sustained by members of the public. Whilst lifesavers are trained and equipped to deal with injuries to an extent, when serious injuries are sustained, advanced medical assistance will be requested. Of the 546 calls made, 335 patients required further treatment and transportation to hospital.

A snapshot of the summer months shows that in December, 101 requests for ambulance assistance were made and 62% (n=63) of them required patient transport accounting for 19% (n= 63) of the total transportations. January accounted for 136 calls with 57% (n=78) of them requiring transportation, accounting for 23% (n=78) of total transportations in NSW. February had 65 with 69% (n=45) requiring transportation, accounting for 13% (n=45) of total transportations.

High beach attendance rates on weekends created an environment in which more ambulance calls were made. This is reflected in the data with 70% (n=234) of all hospital transportations occurring on the weekend and 58% (n=198) occurring between the hours of 12:00pm and 6:00pm.

The Christmas period is one of the busiest with 41 calls to ambulance made between 25 Dec and 27 Dec which accounts for 8% (n= ) of annual ambulance requests. From 1 Jan to 2 Jan, only 7 calls were made in comparison to 35 calls in the 2015/16 equivalent period. The 2016/17 season recorded lower attendance over this period which correlates with the lowered pressure on ambulance services.

Coogee beach has recorded the most requests for ambulance with 30 calls, however this number is down from 47 calls made in 2015/16 season. Maroubra beach had the second most calls for assistance with 19. Overall, the majority of calls to ambulance were made as a result of injuries involving dislocations/fractures/sprains (n=123) as well as suspected spinal injuries (n=86) or drowning/non-fatal drowning (n=72).

61%  
TRANSPORTED  
TO HOSPITAL

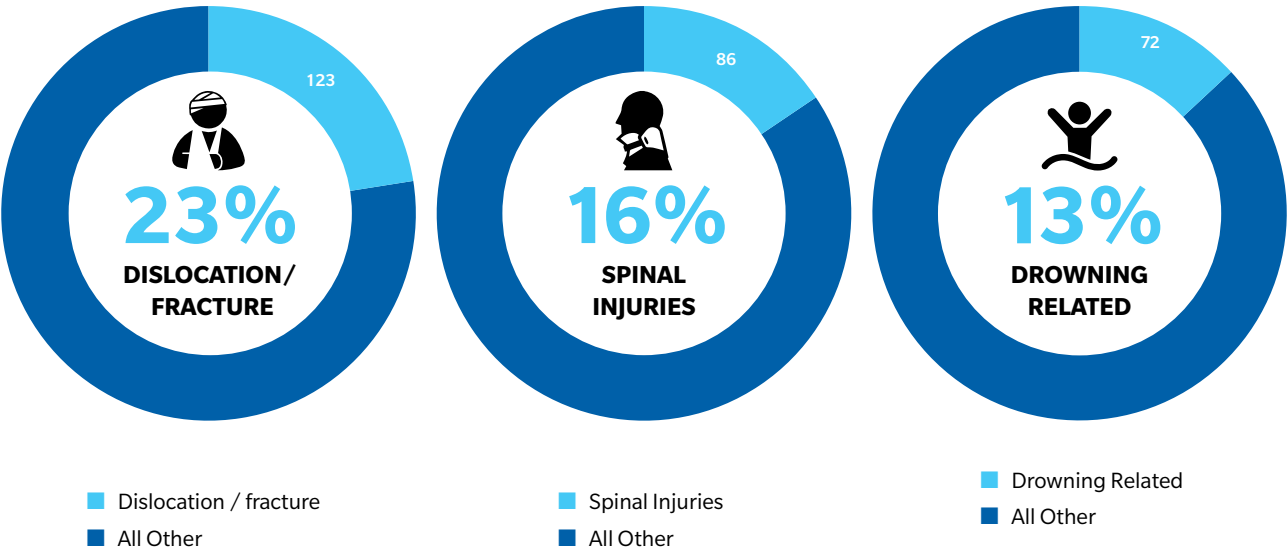


INJURY TYPE (2016 / 17)			
Dislocation/Fracture/Sprain	123	Heat Exhaustion/Hypothermia	9
Suspected Spinal Injuries	86	Fit/Seizure	9
Drowning/Non-fatal Drowning	72	CPR	7
Sting/Bite	52	Allergic Reaction	6
Laceration/External Wounds	51	Intoxication/Overdose	5
Other	42	Possible Internal Injury	3
Fainting/Collapse	25	Stroke	3
Asthma/Breathing Difficulties	19	Diabetic Event	1
Head Injury/Concussion	18	Penetrating Injury	1
Chest Pain/Heart Attack	13	Shock	1

Figure 19

## 2016/17 AMBULANCE INJURY TYPE

Dislocations/fractures/sprains (23%, n=123) were the most common injury requiring ambulance assistance in the 2016/17 season. Suspected spinal injuries (16%, n=86) were the second most common.





## 2016/17 PREVENTATIVE ACTIONS

127,161  
PREVENTIONS



995  
LOST CHILDREN



180  
SEARCHES



163  
EVACUATION ALARMS

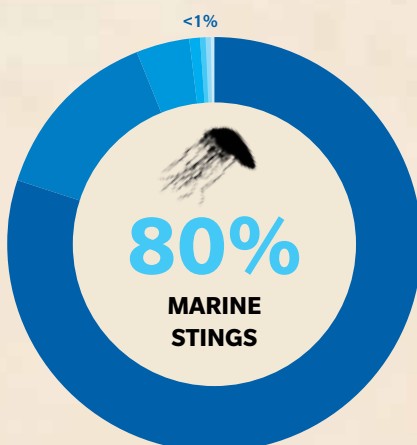


Figure 20

### 2016/17 FIRST AIDS

In the 2016/17 season 80% (n=12,586) of first aid actions performed by surf lifesavers were for marine stings, the second most common treatment was for minor cuts/abrasions (14%, n=2,192).

- Marine Stings (12,586)
- Minor Cuts/Abrasions (2,192)
- Other (661)
- Major Wounds (128)
- Fractures/Dislocation (86)
- Spinal (78)
- Resuscitation (19)

# SURF EMERGENCY RESPONSE SYSTEM

The Surf Emergency Response System (SERS), established in 2008, provides a point of contact for emergency services that can efficiently task the appropriate response service to incidents that require Surf Life Saving assets in the aquatic environment. This system is available 24 hours a day, 7 days a week and allows for complex communication and coordination between emergency services in time critical searches and rescues.

For the 2016/17 season, the SERS was activated 535 times with 420 of these calls requiring further action from Surf Life Saving assets.

Since the 2012/13 season the SERS has been involved in the rescue of 846 people. With consideration given that this system is used in emergency situations that are time-sensitive, these people are likely to have drowned without the aid of this response system.

This season over 43% (n=232) of the SERS call outs occurred during the summer months, a trend that is consistent with the summer call outs over the past five years. This is likely linked to the higher rates of attendance and coastal usage giving more opportunity for emergency situations to arise. Whilst the majority of SERS activations occur during summer, 11% (n=61) of call outs occurred over winter. For example the quietest month for the past five years has been July, however on average there have been 26 activations during this month each year. This highlights the need to continue the 24/7/365 operation of the system.

The five year trend shows 84%(n=1882) of SERS activations have occurred outside of patrol areas and/or hours, however for the 2016/17 season only 74%(n=396) of activations were under these conditions. Over the past 5 years, 41% (n=1138) of SERS activations occurred on a weekend and this trend has continued this season with 44%(n=238) of activations occurring on a Saturday or Sunday. The distribution of the callouts for the weekdays is between 9-14% (n=52-78) and is a figure that remains consistent with the 5 year average (11-13% n=317-351 for each weekday).

Similar to the drowning rates, increased beach usage generates an increase in the chance a beach user will require an emergency response service. This is reflected in the data with higher rates of

SERS activation occurring in the afternoon between 1:00pm to 5:00pm which accounts for 38% (n=1086) of incidents in the last 5 years. This season has remained consistent with 38% (n=201) of activations occurring during this time period.

Whilst Surf Life Saving is in general focused on the beach environment, assistance was provided in a variety of aquatic rescue operations beyond the beach. In addition to the swimming/surfing related incidents, in the last 5 years the SERS has been activated to assist with 530 boating incidents and 110 rock fishing incidents. Of the 110 rock fishing incidents that SERS activation was required, 33% (n=36) of incidents resulted in drowning, however a positive result in successful rescue operations culminated in 47 rock fishermen saved. Comparing rock fishing to the number of incidents involving swimming in the last 5 years, 680 swimmers in distress required rescuing in which 9% (n=58) resulted in coastal drowning deaths.

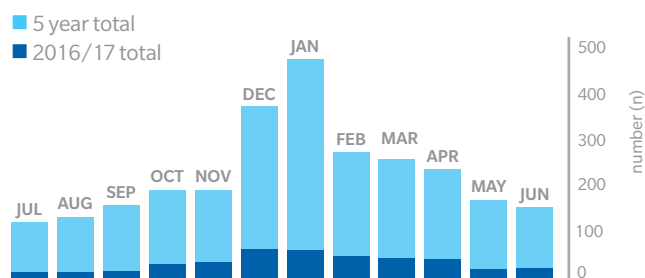


Figure 21

## 5 YEAR vs 2016/17 SERS BY MONTH

Since 2012, 41% (n=1132) of SERS activations occurred during summer. In the 2016/17 season, 43% (n=232) occurred during summer.



84%

**INCIDENTS OCCURRED  
OUTSIDE PATROL  
AREA/HOURS**



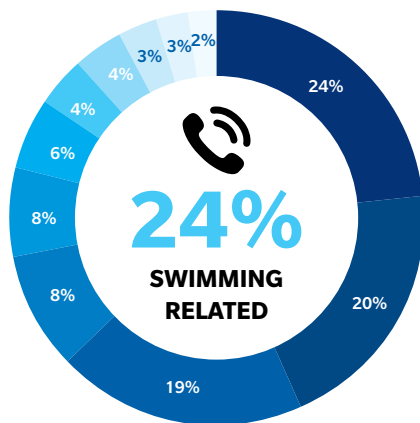
846

**PATIENTS RESCUED**



24/7/365

**COVERAGE**



- Swimming / Wading (679)
- Watercraft (552)
- Boating (529)
- Other (210)
- Shark sighting: land based observation (221)
- Rock/Cliff related (159)
- Suicide/Self Harm (104)
- Rockfishing (109)
- Shark sighting: aerial based observation (87)
- Diving/Snorkelling (76)
- Missing Person: Land (61)

Figure 22

### 5 YEAR SERS ACTIVITY

Between 2012-17, swimming/wading incidents were the most common activity responded to through the SERS (24%, n=679). Watercraft (20%, n=552) and Boating (19%, n=529) were the next most common activities responded to through the SERS

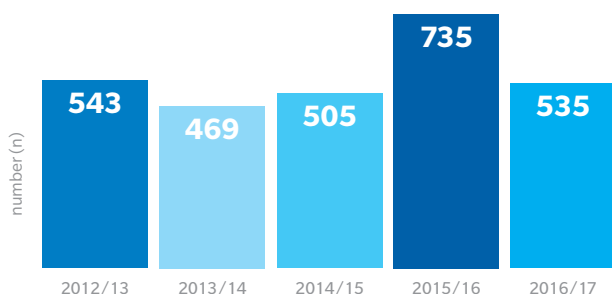


Figure 23

### 5 YEAR SERS TREND

In the 2016/17 season the SERS system was activated 535 times, slightly below the 5 year average of 557.

## CASE STUDY: DIGITAL NETWORK SET TO SECURE FUTURE

The importance of having a reliable and effective radio service to assist our frontline lifesavers on patrol cannot be understated, and in recent years Surf Life Saving NSW has continually worked to consolidate the network.

### Radio An Important Tool

With the push of a button, and a keying of a mic, operators situated in the State Operations Centre (SOC) are able to connect to any patrol team on duty in NSW.

This is an integrated and dynamic system that allows real-time communication between the SOC and the beach which can provide support for any number of incidents.

One of the key advantages of having a central hub for communications is that it is possible to know where Surf Life Saving assets are deployed at any given time. This has proved invaluable, particularly on large scale search and rescue operations during which SLS assets have provided support to other agencies such as Police.

In the past one of the limitations to the network was that it ran on an analogue signal. This meant that there were some areas where coverage was limited.

Surf Life Saving has invested in and will continue to invest in digital upgrades to ensure the capability of the network into the future.

### More Branches Come Online

Ahead of the 2017/18 season the digital upgrade on the network which includes important infrastructure has been completed on the Sydney Northern Beaches.

To ensure total coverage on the Northern Beaches, four towers situated at North Head, Fishermans Beach at Collaroy, Bilgola Plateau, and Barrenjoey Lighthouse will be utilised.

Additionally, work to upgrade the Sydney Branch network to a digital signal will also be implemented in the coming months.

The radio network supports not only volunteer surf lifesavers, but other agencies are also seeing the benefit of having a central communications network that encompasses the state.

On completion of work in these two branches, almost half of NSW will be digital and with further plans to expand in the future, the digital radio network will continue to play an important part in keeping beachgoers safe.

# SURF EMERGENCY RESPONSE SYSTEM HEAT MAP

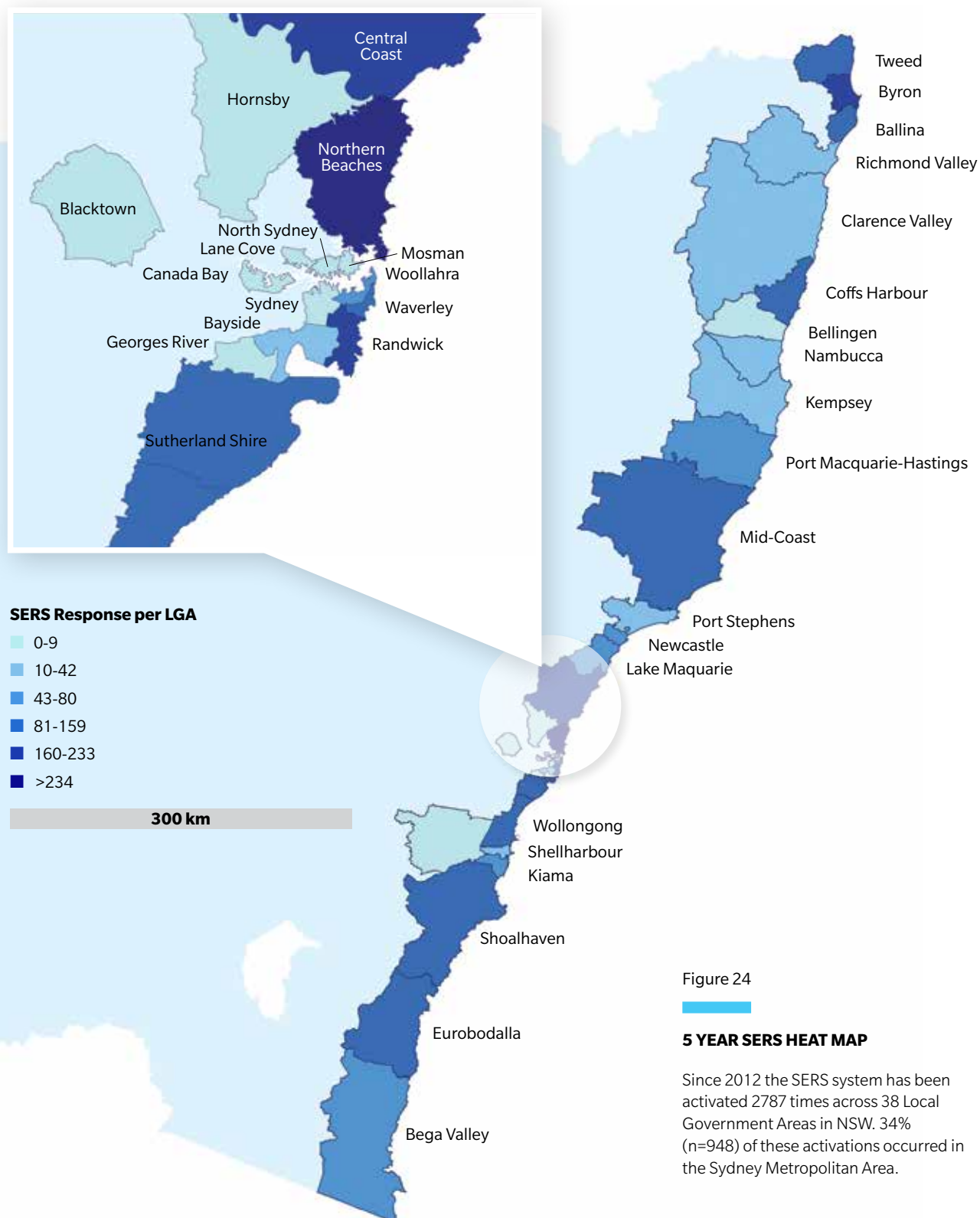


Figure 24

## 5 YEAR SERS HEAT MAP

Since 2012 the SERS system has been activated 2787 times across 38 Local Government Areas in NSW. 34% (n=948) of these activations occurred in the Sydney Metropolitan Area.



## CASE STUDY: INTER-AGENCY CO-OPERATION

Capitalising on a very visible presence on our beaches, Surf Life Saving NSW continues to work with other agencies in an effort to promote a conversation in the community about the importance of surf safety.

### Embracing A Communications Role

There was significant and sustained media coverage over the December/January period after numerous high profile drowning tragedies occurred across a variety of water environments. This thrust both SLSNSW and Royal Life Saving into the spotlight as the public became increasingly concerned with these incidents.

As a result, SLSNSW worked with multiple agencies for the "Get Water Safe, Not Sorry" campaign that was funded by the NSW Department of Justice in an effort to shock the public into taking their safety seriously.

In the lead-up to Australia Day, representatives from SLSNSW joined the NSW Police, Royal Life Saving, Marine Rescue NSW, Roads and Maritime NSW, the Westpac Life Saver Rescue Helicopter, and the Australian Lifeguard Service in a media conference to reinforce the importance of water safety.

As this edited media release indicates, this was an unprecedented show of unity and demonstrated how seriously all agencies are about working together to reduce the drowning toll.

### Water Authorities Stand United In Safety Message Plea

*After a horror holiday period which resulted in the drowning deaths of at least 20 people, water authorities across New South Wales have united to deliver a strong safety message ahead of the Australia Day public holiday.*

*Representatives from agencies incorporating the broader water safety community gathered at the Marine Area Command headquarters in Sydney to plead with the public to take water safety seriously as the drowning toll continues to rise.*



To view the full safety message,  
visit <http://bit.ly/2ibipMN>

# CAPABILITY

In order to deliver a professional water safety service to the millions of beachgoers who venture to the coast each season, Surf Life Saving NSW needs the appropriate gear and equipment to complement the training structures already in place to enhance and develop the skill of our members.

A glance at the nature of our membership reveals an organisation that encompasses a broad cross-section of the community. Surf lifesavers come from all walks of life and occupations and of our 75,000 members, around 21,000 are on active patrol duty throughout the season.

New South Wales boasts a coastline stretching over 1,700 kilometres and there are over 800 accessible beaches and 300 rock platforms for people to enjoy. With such a huge area to cover it is important to ensure that our assets are strategically placed to ensure that there is response capability in the most heavily frequented areas.

With the red and yellow flags flying on beaches between each September and April, ensuring our volunteers are equipped to do what they do best requires a significant and ongoing investment. It costs approximately \$60,000 to purchase the required gear and equipment to establish each patrolling service from start-up, and there are many ongoing costs as well as an investment in ensuring our members have access to the best possible information and skills.

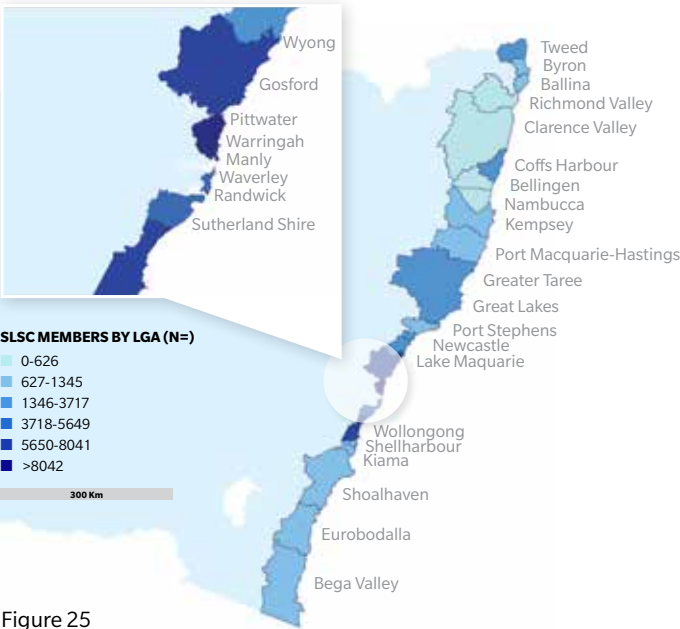


Figure 25

### 2016/17 MEMBERSHIP HEAT MAP

Surf Life Saving NSW’s membership in 2016/17 was 75,034. 48% (n=36,389) of surf lifesavers are members of clubs within the Sydney Metropolitan Area.



CAPABILITY - EQUIPMENT	
Rescue Tube	2,627
Rescue Board	2,052
Oxygen Resuscitation Equipment	584
Radios	1,794
Beach vehicles (ATV)	121
Defibrillator	531
IRB Hull	434
IRB Motor	619
RWC	132
JRB	2
ORB	1



# THE VALUE OF SLSNSW TO THE COMMUNITY

2012/13 - 2016/17  
5 SEASON AVERAGE

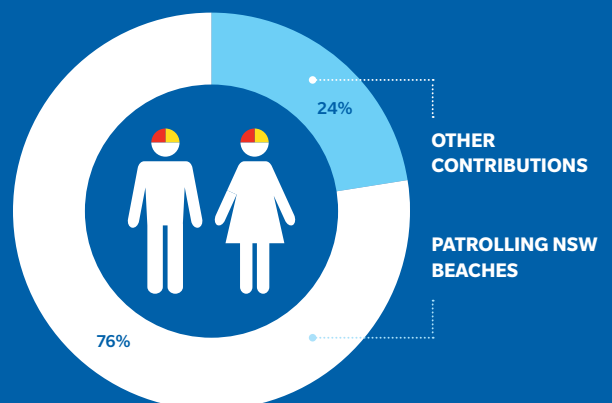
**41:1**

FOR EVERY \$1 INVESTED,  
\$41 IS RETURNED

**\$1.7 BILLION**

VALUE OF LIVES SAVED &  
INJURIES PREVENTED

SLSNSW AWARDS	AWARDS DELIVERED	PROFICIENT MEMBERS
Advanced Resuscitation Techniques	1,023	4,352
Provide First Aid	743	3,913
Silver Medallion Beach Management	560	3,779
IRB Driver	305	2,383
IRB Crew	787	4,563
Bronze Medallion	2,931	14,699
Surf Rescue Certificate	1,585	N/A



**855,363**

VOLUNTEER HOURS  
5 YEAR AVERAGE



# ATTENDANCE HEAT MAP

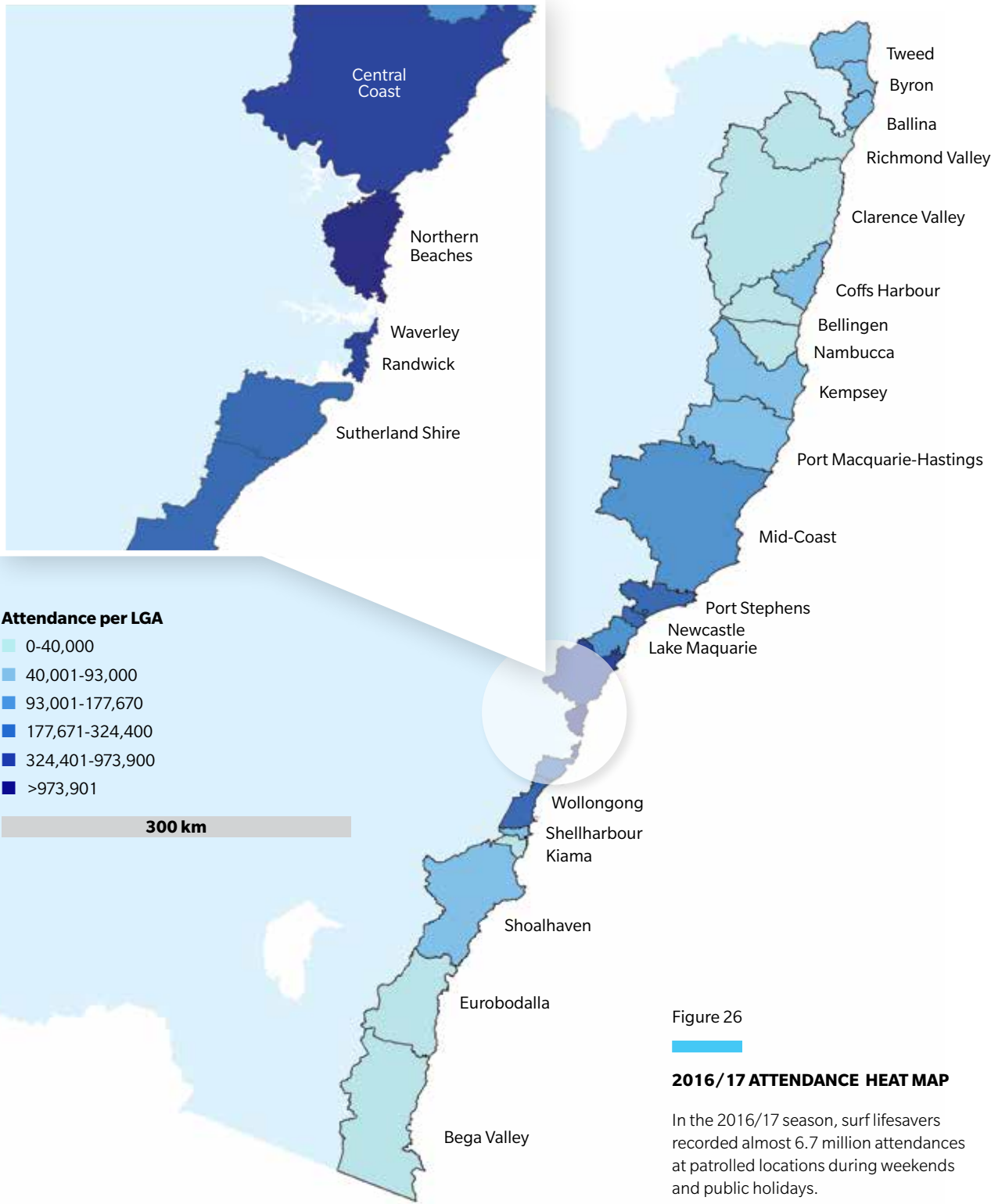


Figure 26

## 2016/17 ATTENDANCE HEAT MAP

In the 2016/17 season, surf lifesavers recorded almost 6.7 million attendances at patrolled locations during weekends and public holidays.





## CASE STUDY: COMMITMENT TO SHARK MANAGEMENT

Surf Life Saving has continued to work closely with other agencies most notably the Department of Primary Industries (DPI) as part of the NSW Government's multi-million dollar shark mitigation strategy as a number of innovations are progressively rolled out.

While the 2016/17 season has seen a reduction in shark related callouts through the Emergency Response System as opposed to the historic highs of previous summers, frontline lifesavers on patrol have nevertheless continued to respond as required.

There have been 5 recorded unprovoked encounters between humans and sharks in NSW waters during the last 12 months according to the Shark Attack Data File and though there have been injuries, none of these incidents resulted in a fatality.

### Role of Our Members

The role of the lifesaver when it comes to shark mitigation can be varied and diverse. Predominantly it is to confirm shark sightings at the request of other agencies such as Police by conducting sweeps of the area using Inflatable Rescue Boats (IRBs) or Jetskis, erecting signage if the beach needs to be closed and communicating with swimmers to help clear the water. In the event of an encounter, lifesavers can also be first on scene and be required to perform the initial first aid treatment.

### Supporting The DPI

*The State Government has implemented a number of strategies over the last year which included a six month trial of nets on beaches in Northern NSW, additional aerial surveillance over summer, and the installation of smart buoys with VR4G receivers as part of a tagging and tracking program.*

*The buoys have been progressively installed at locations from near the Tweed through to Forster on the Mid North Coast.*

*Since November 2016, a further 10 buoys have been progressively installed at beaches from Crescent Head through to Merimbula, which will increase coverage across a greater percentage of the NSW coast.*

*Any time a tagged shark swims past these buoys a signal is sent directly to the Shark Smart App and Twitter Page and this information is then shared on the organisation's social pages as well, particularly during the peak of summer.*

*Surf Life Saving continues to communicate information about ongoing shark mitigation strategies to our membership and the public, and through the Coastal Accommodation E-News, a regular holiday update distributed to tourism and accommodation providers up and down the NSW coastline.*

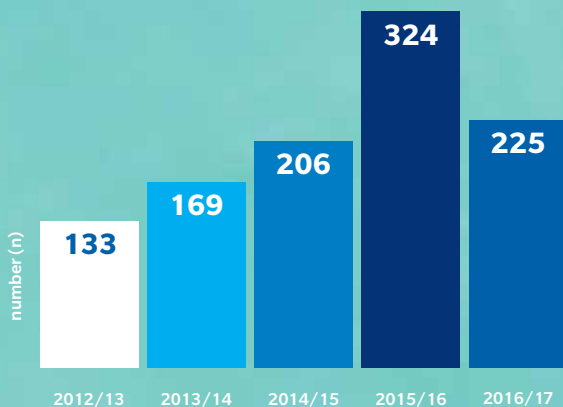


Figure 27

### 5 YEAR SHARK SIGHTINGS

The 2016/17 season had the second highest number of shark sightings (n=225) in the last 5 years (2015/16 recorded the most).

# AUSTRALIAN LIFEGUARD SERVICE NSW

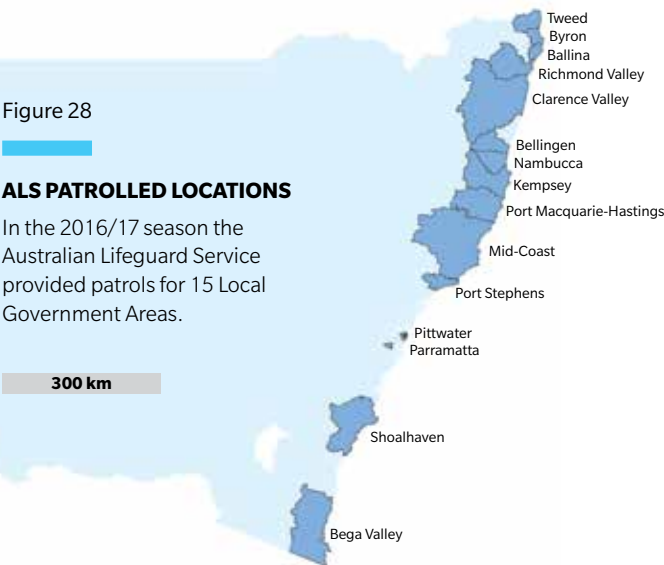
The Australian Lifeguard Service (ALS) NSW is a wholly-owned subsidiary of Surf Life Saving NSW (SLSNSW), providing professional lifeguard services and water safety to local government authorities, private corporations, sporting organisations and community groups. Currently the ALS patrols 89 locations and provides professional lifeguard services to 15 Local Government Areas in NSW. As the industry leader in professional lifeguarding in NSW, the ALS ensures that all employed lifeguards are provided with nationally-accredited training and professional development.

During the 2016/17 season, lifeguards were required to be diligent at all times as more than 4.7 million people visited our patrolled locations across NSW. Across the season 370 employed lifeguards completed over 94,000 patrol hours, conducted 1,141 rescues, undertook more than 290,000 preventative actions, and performed approximately 11,200 first aid treatments.

Figure 28

## ALS PATROLLED LOCATIONS

In the 2016/17 season the Australian Lifeguard Service provided patrols for 15 Local Government Areas.



**65%**  
**NSW COASTLINE  
PATROLLED BY ALS**



**1,141**  
**RESCUES**



**290,241**  
**PREVENTATIVE  
ACTIONS**



**11,208**  
**FIRST AID**



4,703,912

**BEACH  
ATTENDANCE**

## CASE STUDY: AUSTRALIAN LIFEGUARD SERVICE AND JOINT AGENCY RESPONSES

The Australian Lifeguard Service realises the importance of having strong working relationships with a wide variety of agencies in NSW. Lifeguards are constantly interacting with other rescue agencies on situations such as major first aids, transportation of injured members of the public and search and rescue efforts.

All ALS lifeguards are provided with professional development opportunities to ensure they maintain and enhance their emergency response and beach management capabilities. It has become a priority in recent seasons to ensure that lifeguards are given as many opportunities as possible to train alongside other agency personnel. The outcomes from these ongoing professional development opportunities was highlighted in early April 2017 when ALS lifeguards worked alongside paramedics and SES personnel to extract a seriously injured patient from a rock shelf in dangerous conditions.

### Incident

On 2 April 2017, ALS lifeguards in Port Macquarie were advised of a male in his 20s who had been swept off the rocks on the northern point of Tacking Point Lighthouse. Conditions on this day were treacherous with large, powerful surf and strong winds. Lifeguards responded and proceeded to make their way onto the rock platform and assessed that the man had sustained serious lower leg injuries including bilateral compound fractures.

Lifeguards were able to stabilise the patient on the rock shelf, however the large surf and incoming tide meant that an extraction would need to be carried out quickly and efficiently. Due to the seriousness of the injuries and the difficult location it was decided that the patient would be given Methoxyflurane to help relieve the pain while paramedics and SES personnel prepared equipment to extract the patient from the rock shelf. A short time later the patient was extracted from the rock shelf and taken to hospital for surgery.

The Lifeguards' emergency response training undertaken previously with these agencies ensured this critical joint-agency operation was completed safely and professionally.

# CONCLUSIONS

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Without volunteer surf lifesavers patrolling at 129 locations in NSW and the extensive network of support operations services and call out teams responding to incidents beyond the flags, there would have been an estimated additional 248 coastal drowning deaths, 149 permanent incapacitations and 695 more people would have required medical attention to treat injuries.

SLSNSW maintains its consistently advocated position for the **Rock Fishing** Safety Act (2016) to be expanded to include the requirement for lifejackets to be worn along the entire coastline of NSW.

With 45% of coastal drowning deaths in 2016/17 occurring at locations which were unpatrolled, strategies to increase lifesaving service coverage in these areas are critical. The role of SLSNSW **Support Operations** (i.e. Surf Emergency Response System, Duty Officers, RWCs, ORBs) is growing increasingly important. SLSNSW has identified new innovative lifesaving technologies, such as UAVs/drones, that have a role to play in expanding the reach of our volunteers.

Funding for drowning prevention programs for 15-24 year old males must continue. Engagement with teenagers prior to reaching this higher risk age group through high schools is a key strategy and should include **teaching** students how to understand and assess risks in coastal environments in order to inform responsible decision making.

Incidents involving people within the **50-59** years age bracket should continue to be monitored. Should increasing incident trends identified in this report continue, targeted drowning intervention programs should be considered for the age group.

Targeted water safety education delivered into communities with residents over represented in coastal drowning death statistics needs to be invested in and grown. This report identifies that funding for these programs should be focused on schools and migrant centres reaching both at risk Australian residents and **visitors and migrants**.

Statistics from 2016/17 are consistent with the 10 year average highlighting the need for lifesaving services to continue to be proactive and patrols resourced in-line with the **peak periods**.

Lifesavers continue to play an important role in the NSW Government's Shark Management Strategy and with 40 lifesavers and lifeguards now qualified as UAV / drone pilots, SLSNSW can provide additional capabilities in surveillance. The reassurance that comes with providing **more eyes, in more places, more often** can improve the confidence of beach goers.

With the growing population, increased tourism, and change of the traditional beach usage culture of swimming between the flags, **continued education, improved capability and continued research** needs to be at the forefront of our efforts to help reach the target of zero preventable drownings for NSW.





# REFERENCES

## Methodology

Contained within Surf Life Saving NSW's *2017 Coastal Safety Report* is information obtained by Surf Life Saving's internal database, SurfGuard, the Incident Report Database (IRD), the SurfCom Management System, Surf Life Saving Australia and by monitoring media reports. This information has been verified with the National Coronial Information System (NCIS).

While all care has been taken to ensure that statistical information included within this report is accurate, please note that data may be amended over time following the outcome of coronial investigations, which are ongoing at time of print.

Data illustrated in figures may not always add up to 100% due to rounding. Some Local Government Areas amalgamated on 1 July 2016. To be able to compare this year's data to previous years when council amalgamations had not yet occurred we combined the data of previously independent LGAs to match them as they existed at the time of this report. The council areas that this affected are; Mid-Coast Council (previously Greater Taree and Great Lakes), Central Coast Council (previously Wyong and Gosford) and Northern Beaches Council (previously Pittwater, Warringah and Manly). Names and boundaries are accurate for the reporting period (1 July 2016 - 30 June 2017).

## Drowning data analysis

SLSNSW collects incident data from SurfGuard, the IRD, the SurfCom Management System, Surf Life Saving Australia, the National Coronial Information System (NCIS) and by monitoring media reports for drowning death incidents. This information is verified and compiled for analysis by SLSNSW's Lifesaving Department. The following variables are used to match drowning death cases from more than one data source: incident date; location; age; sex; and incident description. The NCIS is considered the 'gold standard' when there is a discrepancy in the detail collected from different data sources. Deaths are excluded if they are reported as 'intentional deaths', they are inland/ocean locations drowning, or drowning/immersion is not a primary cause of death.

## Drowning data limitations

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 within other reports (e.g. SLSA). 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.

## Capability and rescue analysis

SurfGuard, the IRD and SurfCom Management System are web-based applications making up part of a suite of applications that enable members, clubs, branches and SLSNSW to enter and access Surf Life Saving data including operational (including rescues and first aids), capability (including assets and services) education and administrative information.

## Suggested citation

Surf Life Saving New South Wales (2017) New South Wales Coastal Safety Report 2017. SLSNSW: Sydney.

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# GLOSSARY

**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.

**Provide first aid:** A certification providing the skills and knowledge required to provide a first aid response to a casualty.

**Aquatic environment:** Areas such as coastal and inland beach and waterways, swimming pools and their facilities, and other bodies of water, slurry and other agricultural and industrial liquids storage.

**Attempting a rescue:** An effort 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 beach is a wave-deposited accumulation of sediment – usually sand, but ranging in size up to boulders – deposited between the upper swash limit and wave base.

**Blackspots:** An area with a concentration of coastal/ocean incidents and a high probability/risk of ongoing reoccurrence.

**Boating:** Individuals using either a powered vessel or sailing boat for pleasure and/or fishing.

**Coastal:** 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 that 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 5. (Adopted from the Resource Management Amendment Act 1993-New Zealand).

**Coastal death:** Where the location of the death is on the coast, in the ocean up to 3NM offshore or inland up to five times the width of the inlet/river. A fatality arising from various circumstances (e.g. boating, fall, shark attack, rock fishing, drowning, medical, diving).

**Coastal drowning death:** Where the location of the drowning is on the coast, in the ocean up to 3NM offshore or inland up to five times the width of the inlet/river.

**COD:** Cause of death.

**Crude drowning rate:** The crude drowning rate is a comparative rate of drowning deaths to the size of the population in that area.

**Cultural And Linguistic Diversity (CALD):** Refers to individuals that identify as having a specific cultural or linguistic affiliation by virtue of their place of birth, ancestry, ethnic origin, religion, preferred language, language(s) spoken at home, or because of their parents' identification on a similar basis. This definition of CALD does not include individuals who identify as Aboriginal and/or Torres Strait Islander.

**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 pre-determined 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. (WHO, 2005)

**Drowning death:** A fatality arising from the process of respiratory impairment as a result of submersion/immersion in liquid.

**Duty Officer:** A person that represents the organisation at a coordination centre or site control point (forward command). Maintains communications with and conveys directions/requests to surf lifesaving services, and provides advice on the status, capabilities, actions and requirements.

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

**Falls (trips/slips):** An event, which results in a person coming to rest inadvertently on the ground or other lower level.

**First aid:** Immediate or emergency assistance given on the spot to people suffering from illness or injury.

**Fishing:** The act of attempting to catch fish.

**Foreign ethnicity:** Individuals who identify with a cultural group other than Australian based on heritage, language or shared customs. This identification is extrapolated from reported data such as the individuals' country of birth and the main language spoken at home.

**Hazard:** The source of potential harm.

**HRS:** Helicopter rescue service.

**ILS:** International Life Saving Federation.

**Inland:** An area that is beyond the line of mean high water or beyond a landward distance of 5 times the width of the coastal inlet/river mouth.

**Inland drowning death:** A fatality arising from the impairment of respiratory function as a result of immersion in liquid, where the location of the drowning death is not considered coastal but occurs in an inland body of water such as a river, lake, creek or dam.

**International:** An individual who is confirmed to reside overseas and/or is a temporary visitor to Australia.

**IRB:** Inflatable Rescue Boat.

**IRD:** Incident Reporting Database.

**Jetty:** A man-made structure that projects out into 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.

**Leisure activity:** An activity commenced on land such as play, walking, jogging or cycling.

**Lifeguard:** An individual that undertakes patrols at a beach or another aquatic environment. This 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, Rescue Water Craft, Rigid Hull Inflatable Boats, Jet Rescue Boats, Offshore Rescue Boats, Helicopters and 4WD units.

**Local Government Area (LGA):** Also known as local councils, LGAs include cities, towns, shires, municipalities or boroughs. Note some amalgamations occurred on 1 July 2016.

**Marina:** A boat basin offering dockage and other service for small craft.

**NCIS:** National Coronial Information System.

**Non-fatal drowning (no morbidity):** Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid; outcomes are classified as morbidity and no morbidity.

**Ocean drowning death:** Where the location of the drowning death is in the ocean further than 3NM offshore but no further than 12NM.

**Offshore:** Beyond the surf zone.

**Open ocean:** The seabed, water and air space above the water between 3NM and 12NM (the Australian territorial waters limit) offshore.

**ORB:** Offshore Rescue Boat.

**Other:** An uncommon known activity not otherwise listed (e.g. paragliding, aircraft crash, fall from pier).

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

**Patrolled location:** A location supervised by a surf 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. Where intervention by a surf lifesaving resource averts a person/s from getting into a potentially life-threatening situation.

**Rescue:** Retrieving 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:** Preservation or restoration of life by establishing and maintaining a person's airway, breathing and circulation.

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

**River:** A natural stream of water flowing into an ocean or bay.

**Rock/cliff:** A rock platform that may or may not have a high steep face.

**Rock/cliff related:** An activity besides fishing that is performed on a rock platform or off a groyne.

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

**Rock-fishing death:** A fatality arising from various circumstances occurring (e.g. wave motion, loss of footing) where the victim was participating in fishing activities on a rocky coast immediately prior to or during the incident.

**RWC:** Rescue Water Craft - sometimes called a Personal Water Craft.

**Scuba diving:** Engaging in recreational or commercial scuba diving.

**SERS:** Surf Emergency Response System.

**Service season and hours:** Vary between branches due to climatic factors but in the context of this report, the season is for the period July 2015 to June 2016.

**Snorkelling:** Swimming with a snorkel and face mask.

**Suicide:** The act of deliberately killing oneself.

**Support operations:** Rapid response rescue units, not affiliated to any specific Surf Life Saving Club.

**Surf lifesaver:** An individual that undertakes patrols at a beach or another aquatic environment. This is typically a non-salaried member, qualified in public safety and aquatic rescue.

**SurfCom:** SLS radio communications centre which assists in managing the communications of surf lifesaving operations and data collection.

**SurfCom Management System:** Surf Life Saving web-based system used to log operational information about Surf Life Saving assets and incidents.

**SurfGuard:** Surf Life Saving database for membership information and operational statistics.

**Surf Life Saving Club:** An SLS affiliated non for profit organisation which has volunteer members who provide coastal safety services to the community.

**Swimming:** To move through water by moving the body or parts of the body.

**Sydney Metropolitan Area:** Local Government Areas bordered by the Hawkesbury River to the north, the Royal National Park to the south and Lower Blue Mountains to the west.

**Territorial Sea:** 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 surf lifesaving resources, trends, national blackspots and coastal safety issues combined with evidenced-based mitigation strategies to address these issues.

**Undetermined:** Cases that are not associated with a closed coroner's report on NCIS are often left 'undetermined' until an official cause of death has been determined. Some examples are cases where bodies have been found washed up on the beach, reports of individuals struggling in coastal environments are made and the bodies are not found/ missing persons reports are not made, or a suspected heart attack in a coastal environment rather than death due to immersion. These deaths will all be followed up on and the incident category updated once coroner determinations are made accessible.

**Wading:** To walk through water while partially immersed.

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

# COASTAL DROWNING 2016/17 SNAPSHOT

**31**  
COASTAL  
DROWNING DEATHS



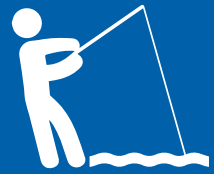
**90%**  
MALE



**42%**  
SWIMMING / WADING



**19%**  
ROCK FISHING



**68%**  
ARE AT LEAST 5KM FROM  
A LIFESAVING SERVICE AT  
TIME OF DROWNING DEATH



**535**  
EMERGENCY  
CALLOUT  
ACTIVATIONS



**4,966**  
RESCUES  
COMPLETED



**650,078**  
VOLUNTEER  
HOURS



**6,696,024**  
BEACH  
ATTENDANCE



**41:1**  
FOR EVERY \$1 INVESTED,  
\$41 IS RETURNED

