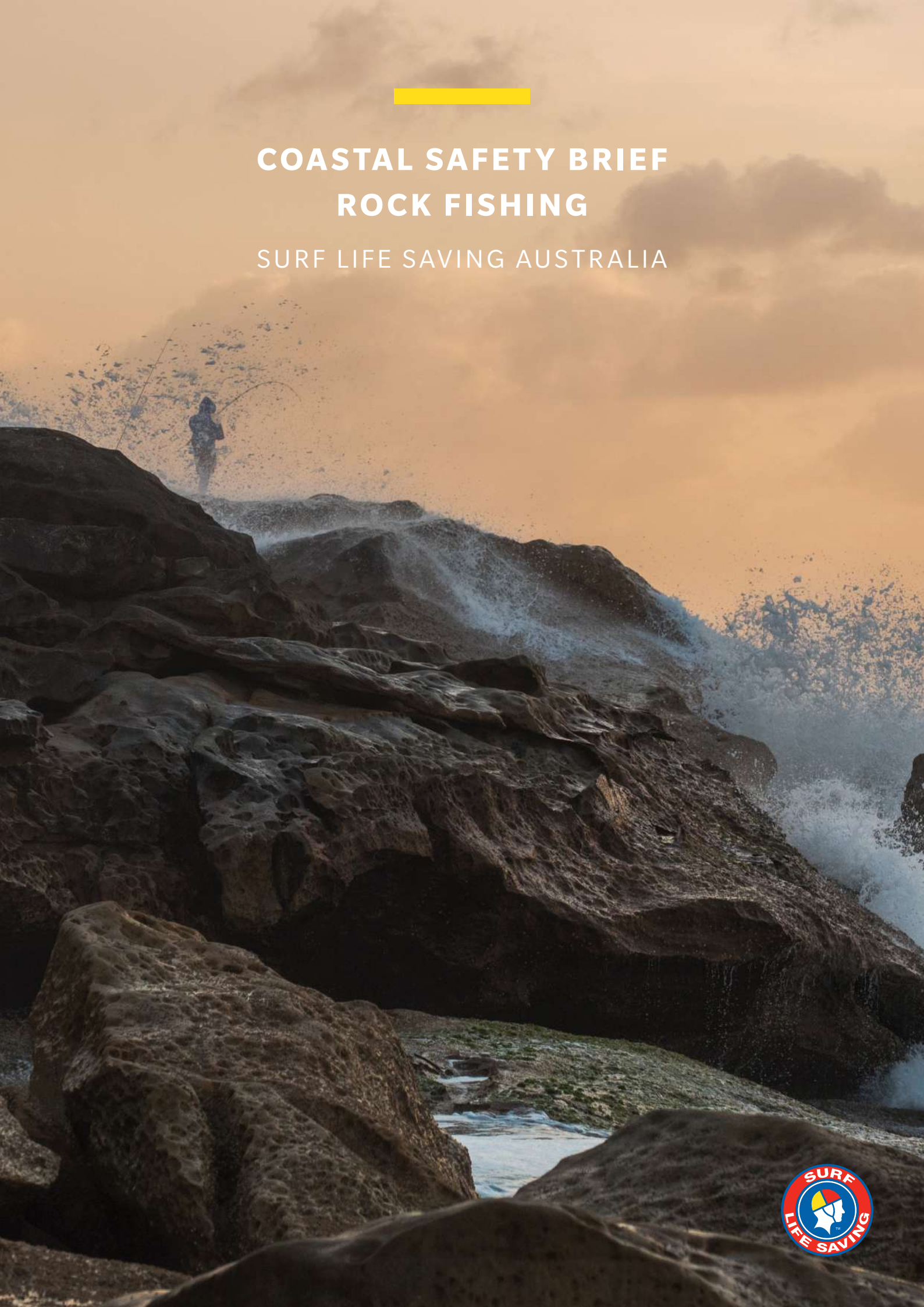
COASTAL SAFETY BRIEF
ROCK FISHING

SURF LIFE SAVING AUSTRALIA



ROCK FISHING SNAPSHOT

2004-19

ANALYSIS

On average, at least 13 people die per year as a result of rock fishing. It ranks third for the number of deaths for an individual activity.

RANK

3rd

AVERAGE DEATHS PER YEAR

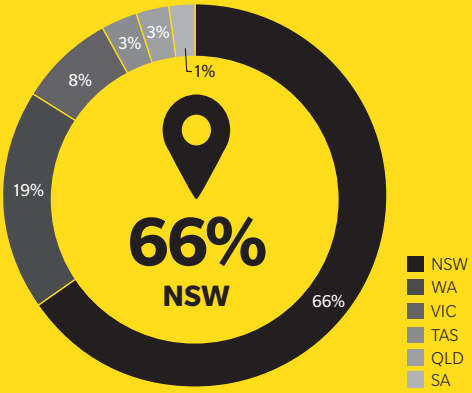
13

AVERAGE MORTALITY RATE

0.06

PER 100,000 POPULATION

LOCATION



KEY DEMOGRAPHICS

25-34
YEAR OLD MALES

40-49
YEAR OLD MALES

PARTICIPATION

- 1.1 million rock fishers
- 0.5 million frequent rock fishers (at least once a month)
- Frequent rock fishers average 190 hours per year

FATALITIES

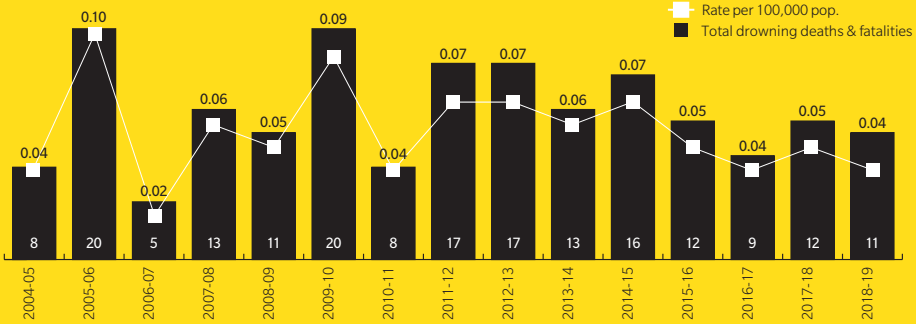
192

AVERAGE AGE

45

95%
MALE

ROCK FISHING DROWNING DEATHS & FATALITIES TREND



CONTRIBUTING FACTORS

83%
NO LIFEJACKET*

**This analysis included unknown cases so is likely to be much higher*

11%
ALCOHOL OR DRUGS

ROCK FISHING IN AUSTRALIA

Rock fishing is a popular activity with an estimated 1.1 million rock fishers on Australian coasts and has been dubbed the most dangerous sport due to a high risk of injury, drowning and immersion. Rock fishing is ranked as the third highest cause of coastal drowning deaths, after swimming/wading and boating, and remains a significant focus for coastal safety research initiatives in Australia.

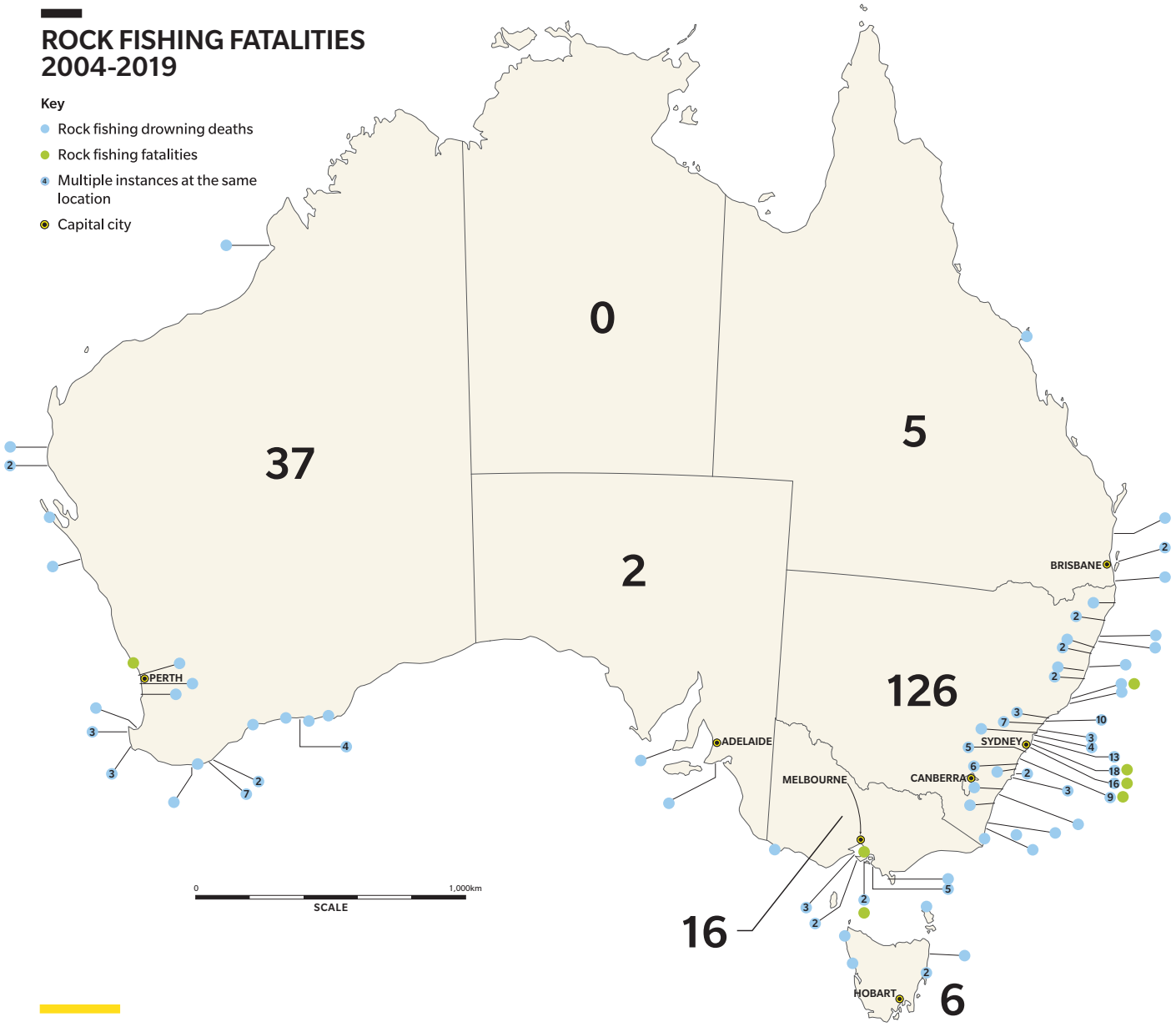
This report includes both coastal drowning deaths and other fatalities as a result of rock fishing (i.e. caused by medical incidents or injury). Since 2004, 185 drowning deaths and 7 other rock fishing fatalities (a total of 192 fatalities) have been recorded nationally, averaging 13 deaths each year and a mortality rate of 0.06 per 100,000 population. Rock fishing victims are predominantly male (n=182, 95%) and between the ages of 25-49 years old (n=95, 51%). Two-thirds (n=126, 66%) of fatal rock fishing incidents occurred in NSW, followed by Western Australia (n=37, 19%) and then Victoria (n=16, 8%). The extensive rocky coastlines of NSW, WA and VIC, combined with frequent hazardous surf conditions, create high-risk environments for fishers. Waves and slippery surfaces contributed to 85% (n=129) rock fishing fatalities, but only 4% of victims were known to be wearing a lifejacket at the time of incident (n=7) – this is key when one quarter of rock fishers report to be weak swimmers or unable to swim in the ocean.

In response to the high numbers of drowning deaths, a coronial inquest (2015) recommended mandatory and enforced lifejacket usage. Compulsory lifejacket usage has since been trialled within high risk local government areas in NSW and WA and provides an excellent example of multisectoral collaboration between multiple government and emergency service providers at the state level. In NSW, the Rock Fishing Safety Act 2016 was passed to support this recommendation and legislates it compulsory for anyone participating in rock fishing within a declared area, including children, to wear an appropriate lifejacket.

Research has exposed freak waves as a myth and identified a strong understanding of wave periods is necessary to reduce risks of rock fishing incidents. The knowledge held within the rock fishing community is invaluable with experienced rock fishers' more aware of associated risks and better able to 'read' multiple environmental conditions, indicating that the ability to respond to hazardous situations is relational to experience. Community-led risk management how these 'experiential experts' perceive and respond to these risks presents a new approach for to increase awareness and education of safe practice within the rock fishing community. fishing community.

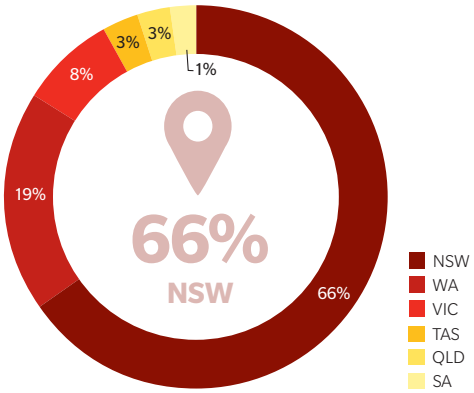
LOCATION

ROCK FISHING FATALITIES 2004-2019



2004-2019

ROCK FISHING DROWNING DEATHS & FATALITIES BY LOCATION (n=192)



ROCK FISHING BLACKSPOTS

NSW

City of Randwick (18)
Northern Beaches Council (18)
Central Coast Council (9)
City of Lake Macquarie (9)
City of Wollongong (9)
Sutherland Shire Council (7)
Waverley Council (7)

WA

City of Albany (10)
Shire of Esperance (7)

VIC

Bass Coast Shire (7)

CAUSAL ANALYSIS

2004-19

WHERE

51%

LIVED MORE THAN 50KM
FROM INCIDENT LOCATION

66%

OCCURRED IN NSW

75%

OCCURRED MORE THAN 1KM
FROM A LIFESAVING SERVICE

WHEN

41%

AFTERNOON
(12PM - 6PM)

21%

AT NIGHT
(6PM - 6AM)

27%

APRIL - MAY

WHY

83%

NOT WEARING A LIFEJACKET*
*could be much higher with 13% unknown

11%

AFFECTED BY ALCOHOL OR DRUGS

71%

WASHED OFF BY WAVES*
*unknown cases were excluded from analyses

CAUSAL ANALYSIS

2004-19

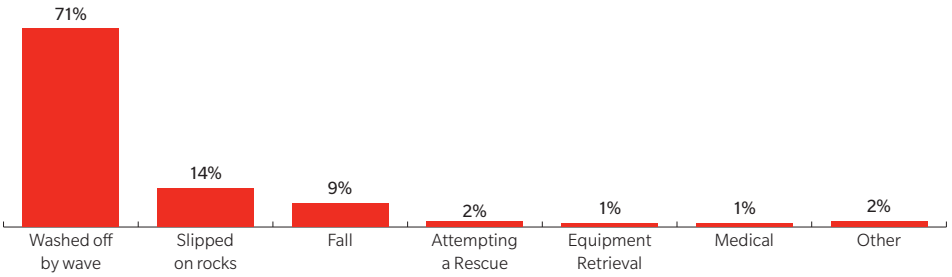
95%
MALE

83%
NO LIFEJACKET

65%
FISHING WITH FRIENDS OR FAMILY

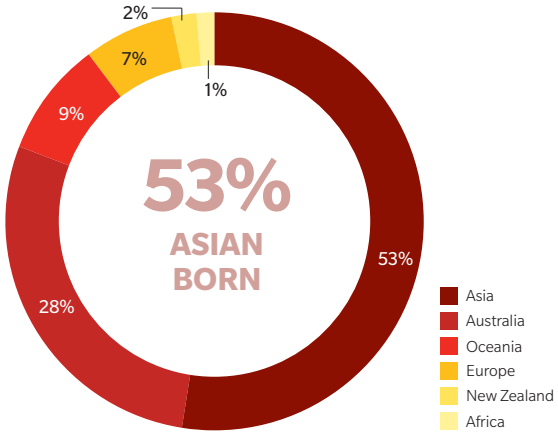
2004-2019
ROCK FISHING CAUSAL FACTORS (n=152*)

71%
ROCK FISHERS WERE WASHED OF BY WAVES



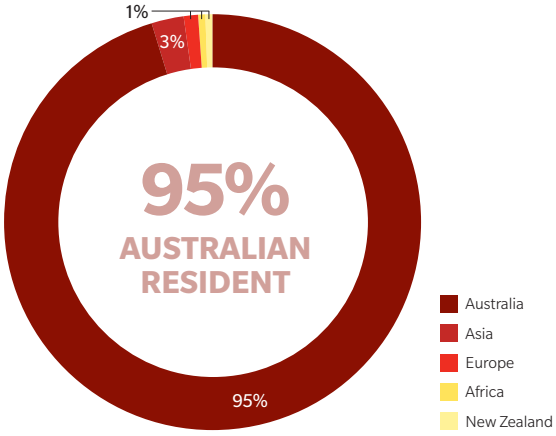
**Unknown cases were excluded from analyses.*

2004-2019
REGION OF BIRTH (n=158*)



**Unknown cases were excluded from analyses.*

2004-2019
REGION OF RESIDENCE (n=191*)



**Unknown cases were excluded from analyses.*

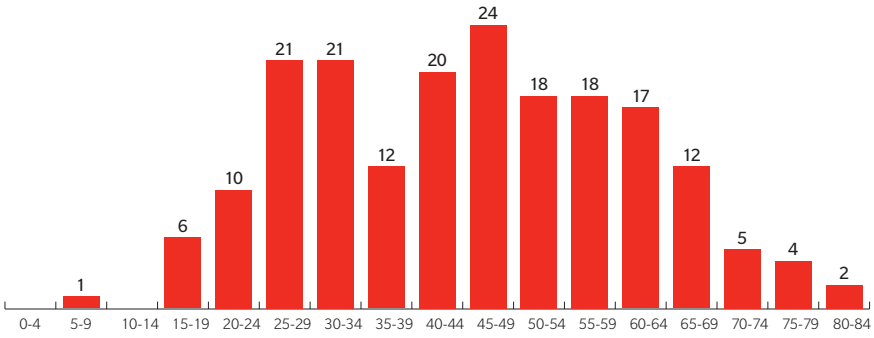
AGE

ROCK FISHING FATALITIES BY AGE (n=191*)

45 YEARS

22%
AGED 25-34 YEARS

13%
AGED 45-49 YEARS



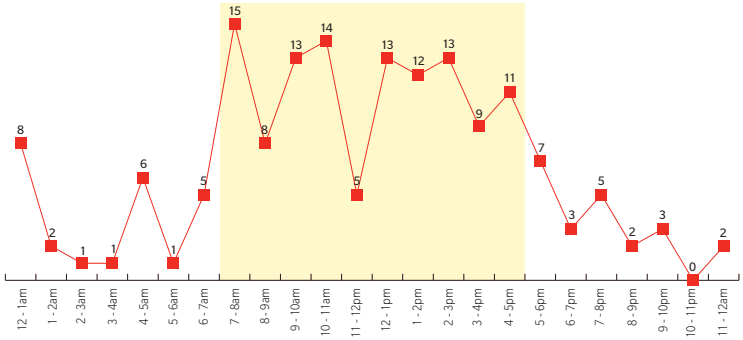
**Unknown cases were excluded from analyses. Age was unknown for one case , there were no rock fishing fatalities involving people aged 85 years old or above.*

TIME

ROCK FISHING FATALITIES BY TIME (n=159*)

41%
12-6PM

31%
7-11AM



**Cases where time of death was 'unknown' were excluded from analyses. This may under-report night-time deaths which are usually not recorded until the morning and have occurred without witnesses. 17% (n=33) of cases occurred at unknown times.*

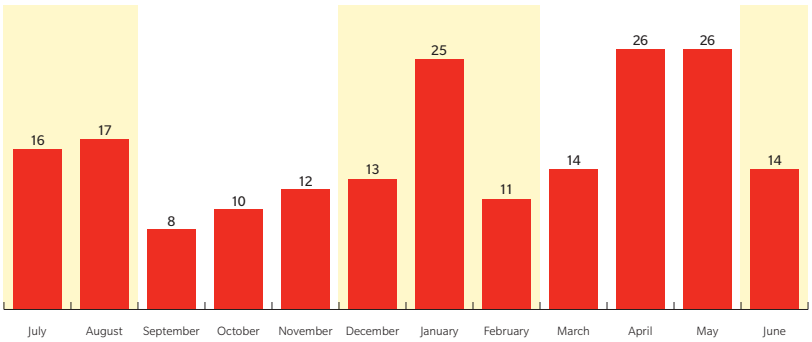
MONTH

ROCK FISHING FATALITIES BY MONTH (n=192)

Shading denotes seasons

34%
MARCH-MAY

26%
DECEMBER-FEBRUARY



PARTICIPATION PROFILE

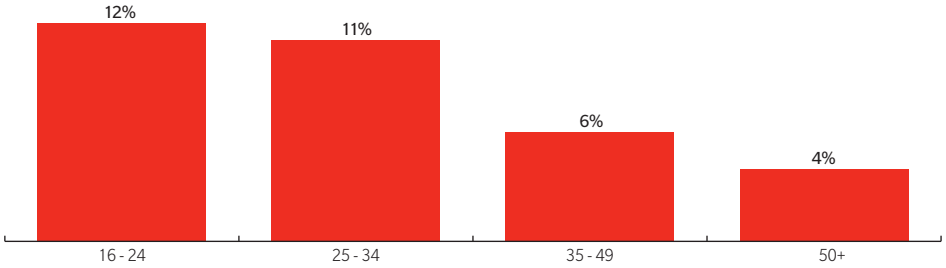
1.1 MILLION
ROCK FISHERS 2019

500,000
FREQUENT ROCK FISHERS
(AT LEAST ONCE A MONTH)

190
HOURS PER YEAR FOR FREQUENT ROCK FISHERS

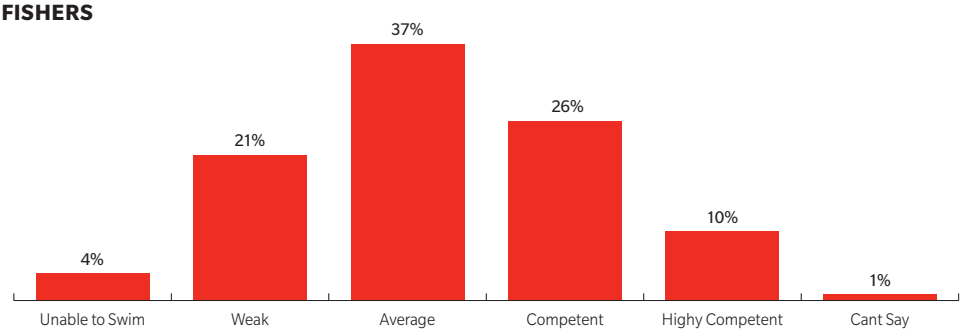
2016 – 2019
AGE OF ROCK FISHERS

23%
ROCK FISHERS ARE 16-34 YEARS OF AGE



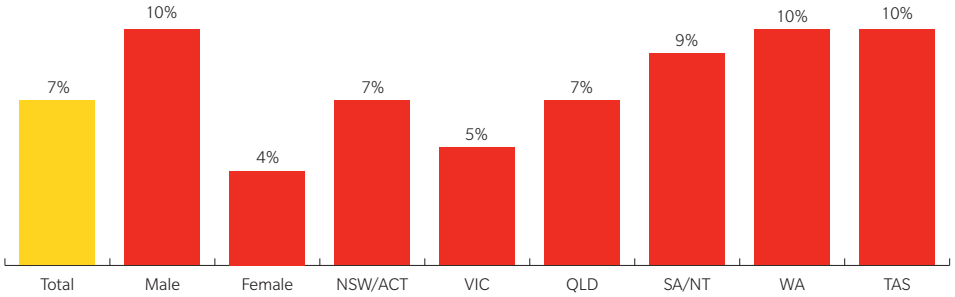
2016 – 2019
OCEAN SWIMMING ABILITY OF ROCK FISHERS

25%
ROCK FISHERS ARE WEAK SWIMMERS OR UNABLE TO SWIM IN THE OCEAN



2016 – 2019
NATIONAL PARTICIPATION IN ROCK FISHING

AUSTRALIANS PARTICIPATE IN ROCK FISHING

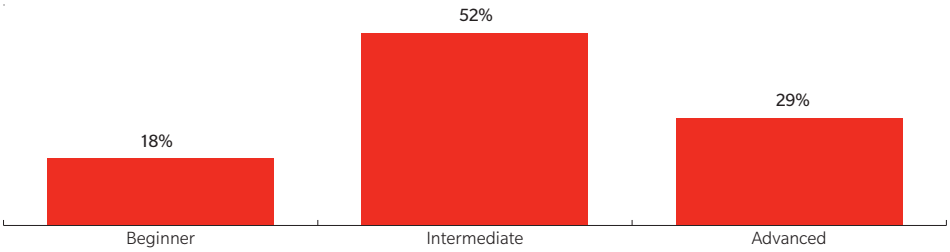


2019

SELF-REPORTED ROCK FISHING EXPERTISE

29%

ROCK FISHERS ARE ADVANCED FISHERS

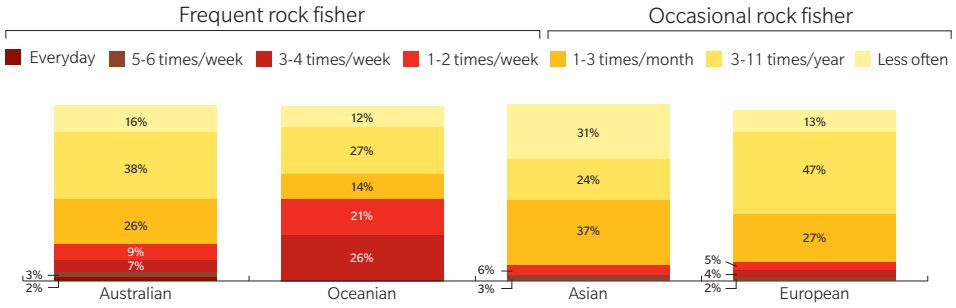


2016 – 2019

ROCK FISHING PARTICIPATION BY ETHNICITY

61%

OCEANIAN ROCK FISHERS GO AT LEAST ONCE PER MONTH

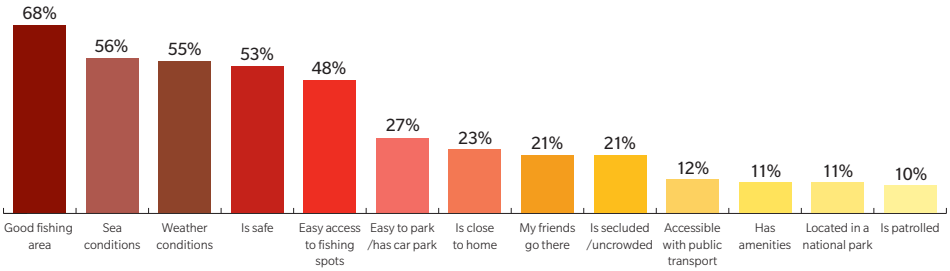


2016 – 2019

HOW DO ROCK FISHERS CHOOSE THEIR LOCATION?

68%

CHOOSE LOCATION BASED ON IT BEING A GOOD FISHING AREA



HAZARD PERCEPTION

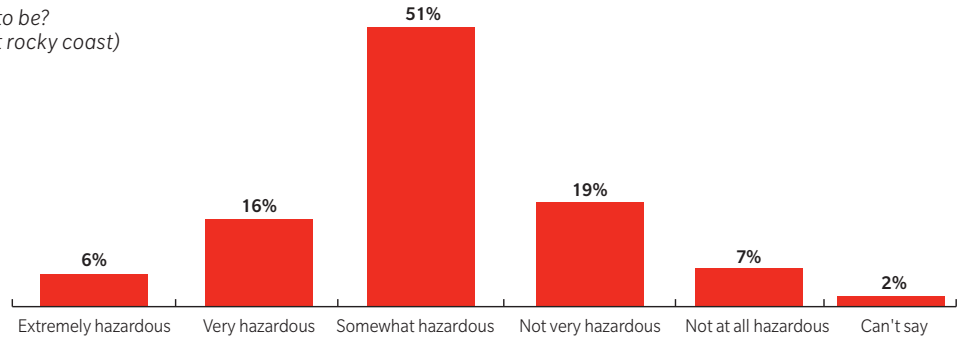
2016 – 2019

COASTAL HAZARD PERCEPTION OF ROCK FISHERS

Q. How hazardous do you believe the coast to be?
(Including the ocean, surfzone and adjacent rocky coast)

51%

ROCK FISHERS BELIEVE THE COAST IS SOMEWHAT HAZARDOUS



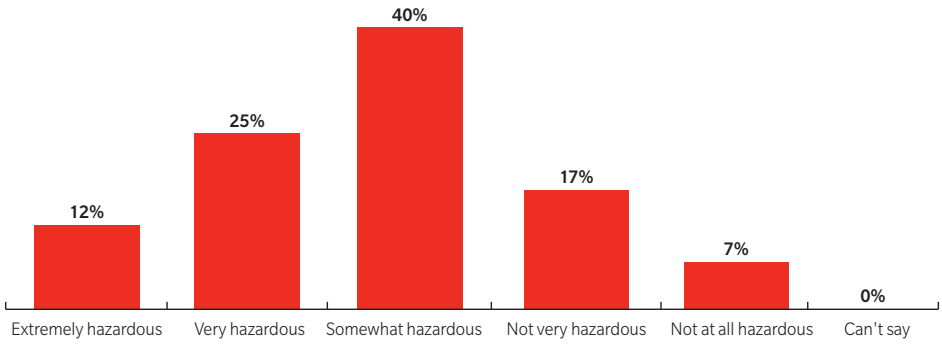
2016 – 2019

HAZARD PERCEPTION OF ROCK FISHING

Q. How hazardous do you believe rock fishing to be?

40%

ROCK FISHERS BELIEVE THAT ROCK FISHING IS SOMEWHAT HAZARDOUS



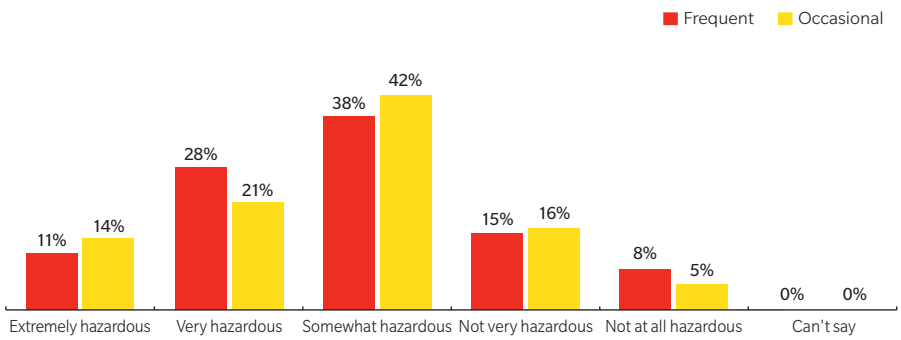
2017 – 2019

HAZARD PERCEPTION OF FREQUENT VS OCCASIONAL ROCK FISHERS

Q. How hazardous do you believe rock fishing to be?

39%

FREQUENT ROCK FISHERS BELIEVE ROCK FISHING IS EXTREMELY / VERY HAZARDOUS



SAFETY PRACTICES

35%

NEVER WEAR A LIFEJACKET

48%

ALWAYS GO FISHING WITH AT LEAST ONE OTHER PERSON

33%

NEVER CARRY EPIRB, MOBILE PHONE OR RADIO FOR EMERGENCIES

48%

ALWAYS CHECK FOR AND OBEY SAFETY SIGNAGE

46%

SOMETIMES OR NEVER CHECK SURF AND WEATHER CONDITIONS

43%

ALWAYS WEAR APPROPRIATE CLOTHING AND FOOTWARE

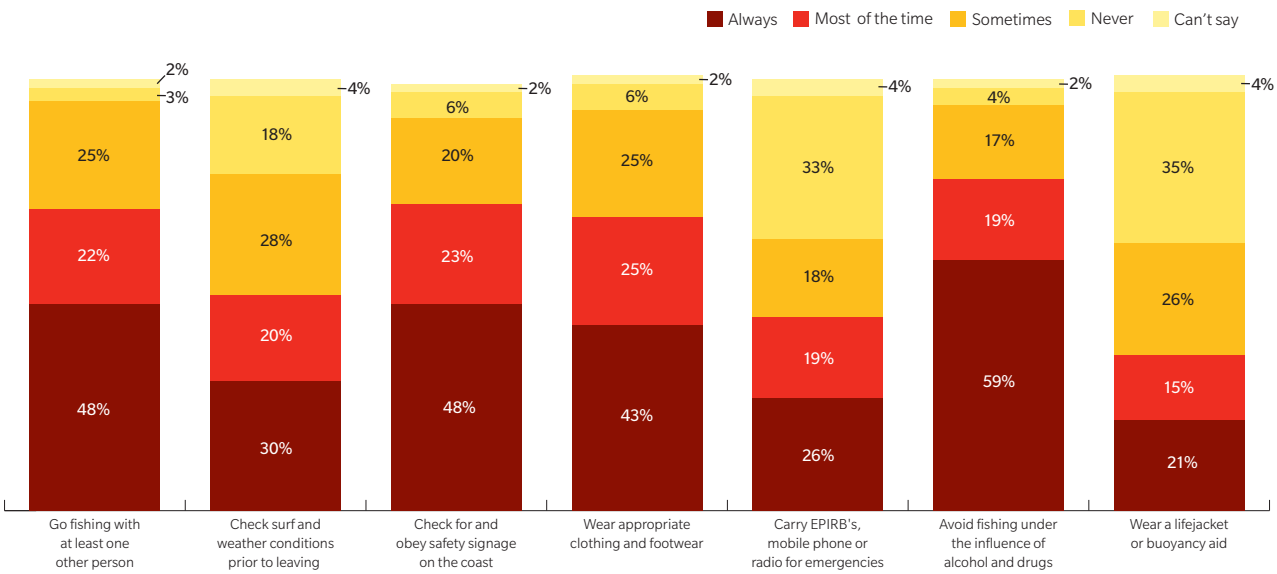
2016 – 2019

SAFETY PRACTICES OF ROCK FISHERS

Q. How often do you follow each of these practices when you go rock fishing?

59%

ROCK FISHERS AVOID FISHING UNDER THE INFLUENCE OF ALCOHOL OR DRUGS



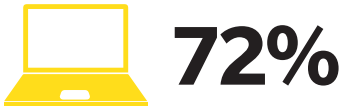
HOW TO REACH ROCK FISHERS

Where rock fishers obtain safety information

Online sources are the most popular method for obtaining coastal safety information. The 2016 IPSOS report findings show that information is most commonly acquired through friends (43%), other rock fishers (34%) and fishing retailers (31%). Family members are a major influence for females (38%), but less so for males (21% among safety conscious, and 17% among safety ambivalent). Safety conscious males tended to be more engaged with information sources in general, including fishing media.

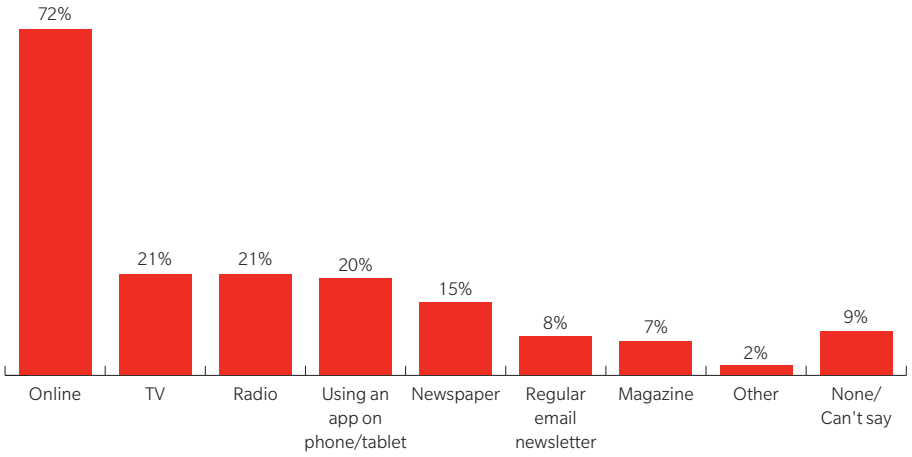
2016 – 2019

PLACES WHERE ROCK FISHERS USUALLY SEEK COASTAL SAFETY INFORMATION



72%

SEEK INFORMATION ONLINE

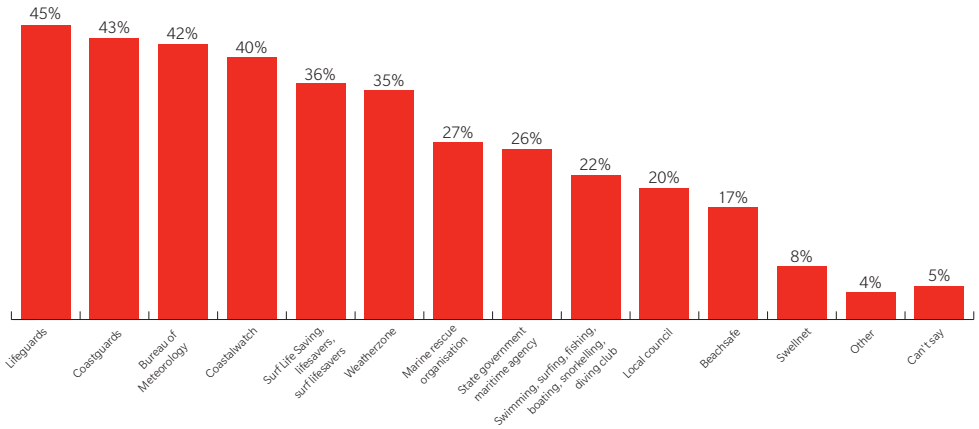


2016 – 2019

AUTHORITIES THAT ROCK FISHERS TURN TO FOR COASTAL SAFETY INFORMATION

42%

FROM THE BUREAU OF METEOROLOGY



What information are rock fishers searching for?

Among those who have searched for rock fishing information the most commonly sought information is about locations, weather and swell conditions, and fish species. Safety conscious males are significantly more likely to look for information about the weather (80%), locations (76%), fishing techniques (61%), safety tips (53%), and gear (53%).

WEATHER/ SWELL CONDITIONS

80% Safety conscious

64% Safety ambivalent

FISHING TECHNIQUES

61% Safety conscious

48% Safety ambivalent

LOCATION

76% Safety conscious

67% Safety ambivalent

SPECIES OF FISH

56% Safety conscious

50% Safety ambivalent

How to reach rock fishers

GENERAL

- Friends
- Other rock fishers
- Fishing retailers, tackle/bait shops
- Family members
- Signage at rock fishing locations
- Online forums
- Fishing clubs or associations

WEATHER

- www.bom.gov.au
- www.willyweather.com.au
- www.weatherzone.com.au
- www.coastalwatch.com
- www.seabreeze.com.au
- www.weather.com
- www.accuweather.com
- www.beachsafe.org.au

Key influencers

LIFEJACKET USE 2016 IPSOS REPORT

Surf Life Saving Australia's (SLSA) main goal is to reduce coastal drowning deaths around Australia. Rock fishing as an activity consistently records the third highest number of drowning deaths nationally. Lifejacket usage plays an important role in the outcome of rock fishing incidents and where participants survive or not. In 2016, SLSA commissioned Ipsos Social Research Institute to conduct a qualitative research project into the perceptions and behaviours of rock fishers with regards to lifejacket usage.

This research indicated that few rock fishers wear lifejackets, while a minority (mainly Asian participants) always or mostly use a lifejacket. The key reasons for wearing a lifejacket include being new to rock fishing, a lack of swimming ability, fishing in rough conditions or at a riskier spot. Knowing someone who had died while rock fishing was a motivator for a few, and for some others, just hearing about fatal accidents made them more likely to wear a lifejacket. In some cases, participants own lifejackets, but don't necessarily wear them, indicating that barriers to usage extend beyond access and cost. Other factors that came into play, including the social perception of wearing a lifejacket as being inexperienced or related to risk-taking behaviours, however if peers or friends were wearing lifejackets it was regarded more socially acceptable. In contrast, some ethnic groups, such as Chinese participants, felt that lifejacket usage indicated increased knowledge.

Based on the survey results, occasional lifejacket use is common among rock fishers with safety conscious males being the most likely to regularly wear a lifejacket, with one quarter always doing so (24%, compared with 10% of safety ambivalent males). Among those who never wear a lifejacket, around two in five actually own one. For those who did always wear a lifejacket, the main reason for wearing one is to avoid drowning and to mitigate concerns about being swept in.

Situations where rock fishers would wear a lifejacket included to mitigate risky situations, such as fishing in spots where there is a chance of being swept in, fishing alone, and fishing with children. The safety conscious respondents are significantly more likely to wear a lifejacket when fishing alone (66%, compared with 43% of safety ambivalent males).

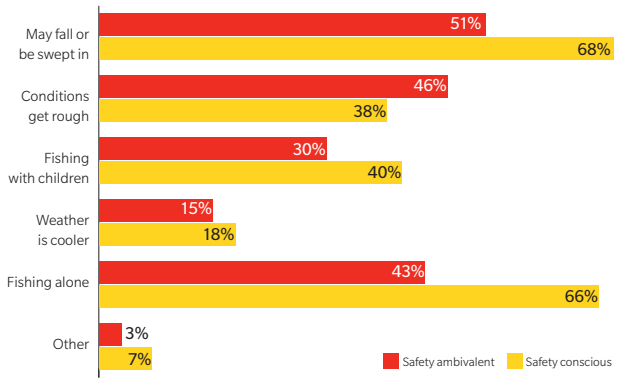
There was a mixed reaction to the possibility of legislation regarding lifejackets for rock fishers. This Ipsos research showed that many accepted or supported the idea of compulsory lifejacket wearing for rock fishers, but some were strongly against it. The latter do not necessarily think that lifejackets are the best (or the only) solution for protecting rock fishers and expressed concerns regarding lifejackets potentially hindering their ability to get to safety. Some questioned how effectively any lifejacket legislation for rock fishers could be enforced, given the difficulties in accessing more remote locations. Others assumed that the cost of buying a lifejacket would or should be subsidised to encourage compliance.

Compulsory lifejacket usage has since been trialled within high risk local government areas in NSW and WA and provides an excellent example of multisectoral collaboration between multiple government and emergency service providers at the state level. NSW is the only state which has rock fishing legislation with the Rock Fishing Safety Act 2016 which makes it compulsory for anyone who is rock fishing anywhere in a declared area, and anyone who is helping to rock fish, including children, is also required to wear an appropriate lifejacket. While this legislation came into effect after this survey was conducted, there was a feeling among participants that lifejacket wearing would be legislated and become the norm.

2016 IPSOS REPORT

SITUATIONS TO WEAR A LIFEJACKET

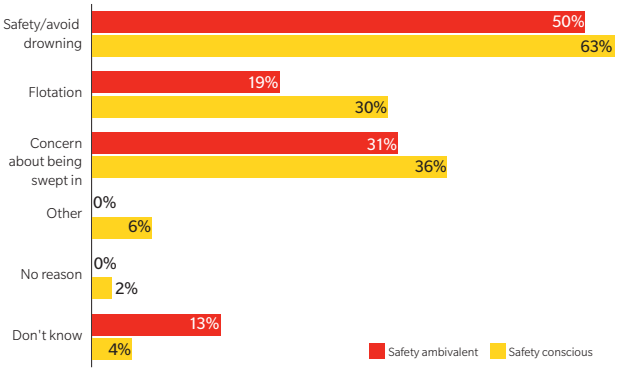
From those who do not always wear a lifejacket



2016 IPSOS REPORT

REASON TO ALWAYS WEAR A LIFEJACKET

From those who always wear a lifejacket

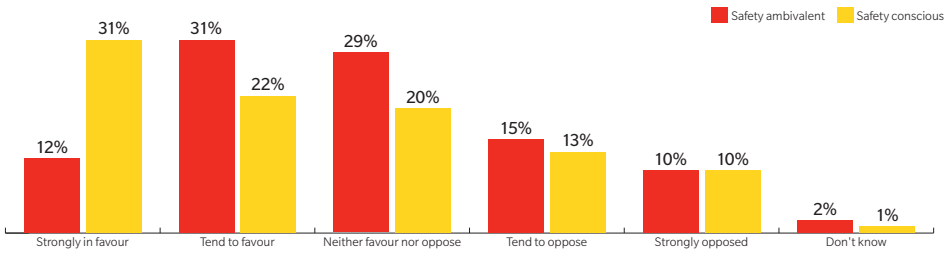


2016 IPSOS REPORT

SUPPORT FOR MANDATORY LIFEJACKETS: SAFETY AMBIVALENT COMPARED TO SAFETY CONSCIOUS

31%
SAFETY CONSCIOUS
STRONGLY IN FAVOUR

12%
SAFETY AMBIVALENT
STRONGLY IN FAVOUR

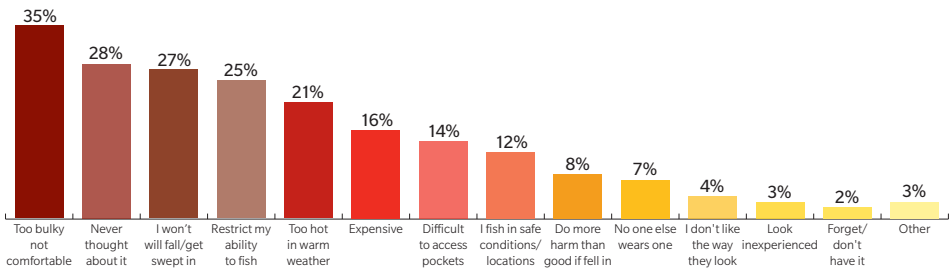


2016 IPSOS REPORT

WHAT ARE THE MAIN REASONS YOU DON'T WEAR A LIFEJACKET?

From those who do not always wear a lifejacket

35%
DON'T WEAR A LIFEJACKET BECAUSE IT'S TOO BULKY OR UNCOMFORTABLE



FEATURE: THE FREAK WAVE MYTH

Rock fishing is currently Australia's third highest cause of coastal drowning, following swimming and boating. The media often attributes these fatalities to unexpected large waves or 'freak waves'. Now, the rock fishing community, Melbourne University and Surf Life Saving Australia are challenging the idea of 'freak waves' on Australia's coasts by offering new ways to consider risk.

During this project, highly experienced fishers' (i.e., experiential-experts) revealed that only fishers who do not understand how the wave period influences the timing of waves would refer to a large wave during seemingly calm conditions as a 'freak wave'.

To help explain how wave periods effect the appearance and timing of waves, an experiential-expert provided a sketch showing that when the wave period is 4 - 12 seconds, you can see dangerous waves more easily. But, during wave periods over 12 seconds, wave heights appear less often, giving the sea a calm appearance (figure 1).

The relationship between rock fishing-related drowning deaths were then compared with the daily average wave height, swell direction, and wave period to examine whether experienced fishers' perceptions of long wave periods aligned with the conditions when fishers drowned.

Results showed that the wave periods were higher than average, in support of experiential-expert fishers accounts claiming that when waves are less obvious, inexperienced fishers are at greater risk due to a lack of understanding on how to accurately perceive risks.

The media contributes to this myth by drawing on the fear of terrifying freak waves, but results from this study suggests that attempts to scare fishers into behaving differently is unlikely to be effective. From the perspective of experienced fishers, when media and government draw on the concept of a 'freak wave' they are demonstrating either a poor understanding of coastal processes and risk, or perhaps worse, a misrepresentation of the situation in an effort to govern coastal users.

The expert knowledge held by experienced fishers is invaluable, and they should be encouraged to share their knowledge-practices with less-experienced fishers.

This sharing or exchange of knowledge should be supported by coastal risk managers by improving the communication between the experienced and inexperienced components of the rock fishing community. For example, better communication regarding how longer wave periods affect the appearance of risk will help inexperienced fishers to learn, understand and experience the variety of conditions they are likely to encounter while fishing. Integration of such supportive strategies will increase overall enjoyment by fishers and ultimately work towards reducing rock-fishing related incidents.

Footnote: Reprinted from Ocean and Coastal Management, Vol 173, Peter Kamstra, Brian Cook, David M.Kennedy, Sarah McSweeney, Eveline Rijksen, Shane Daw, Expert perceptions of the 'freak' wave myth on Australia's rocky coasts, Page 104-113,

Inexperienced fishers tend only to assess risk on the conditions close to shore. More experienced fishers are attuned to the fact that calm conditions close to shore can still precede large waves in long period sets.

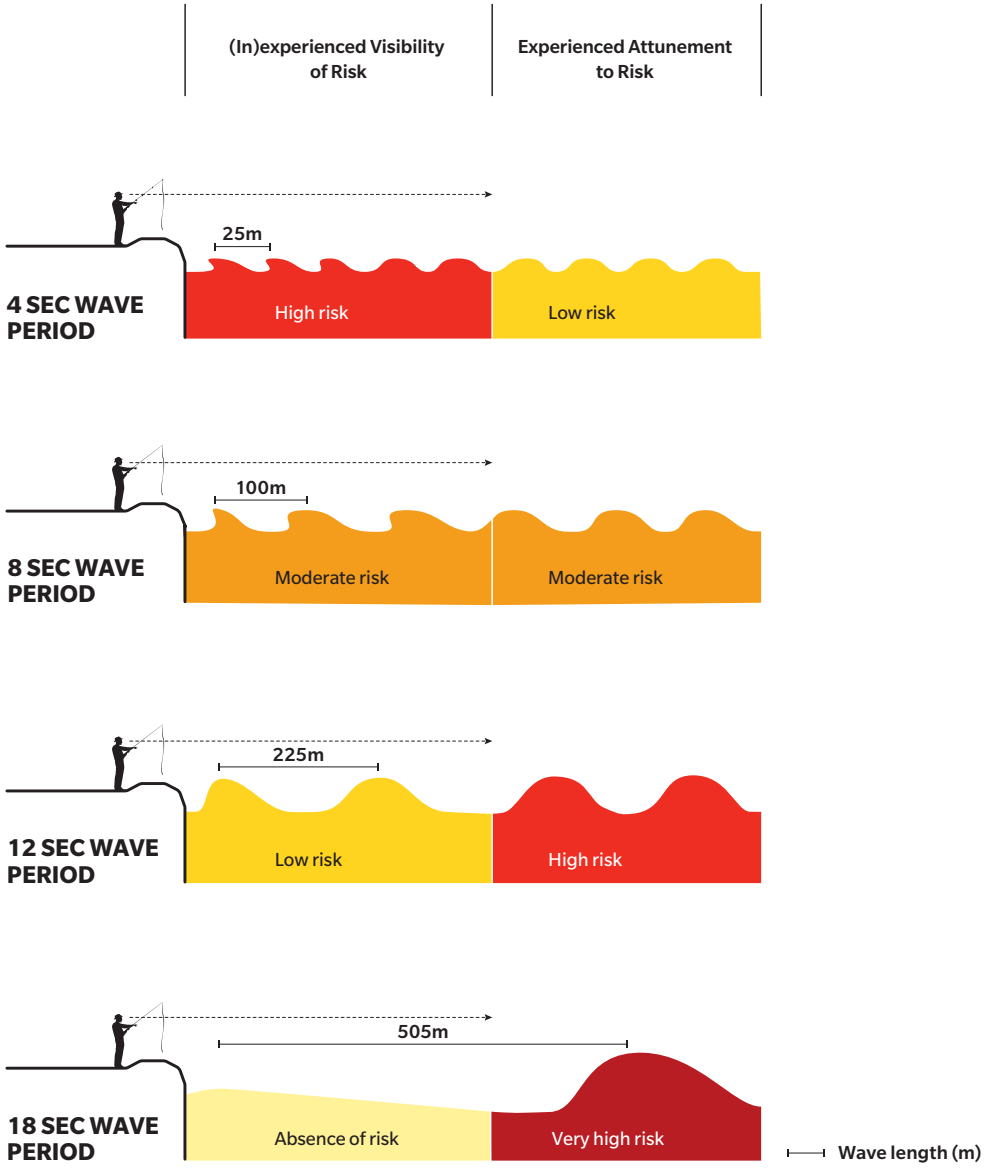


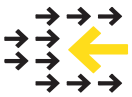
Figure 1

DIFFERENT RISK PERCEPTIONS AND THE ASSOCIATED SPATIALITY OF THOSE PERCEPTIONS BETWEEN INEXPERIENCED AND EXPERIENCED; DESCRIBED BY A ROCK FISHER WITH OVER SEVEN YEARS EXPERIENCE. ADAPTED FROM AN EXPERIENTIAL-EXPERT SKETCH

COMMUNICATIONS PLAN

TARGET AUDIENCES

- Male Residents
- Australian born and overseas born



DESIRED BEHAVIOUR CHANGE

Always wear a lifejacket when fishing from rocks or exposed shorelines.

What Behaviour Do We Want to Change?	Always wear a lifejacket when fishing from rocks or exposed shorelines.
Why?	On average 13 rock fishers lose their life per year. Most victims were not wearing lifejackets.
Who's Behaviour are We Trying to Change?	Australian men in their 30s, 40s & 50s of Australian and Asian heritage.
Potential Barriers to Change	Lifejacket wearing is not considered normal. They don't believe they're at risk.
Who is the Active Voice? And Why?	The wife or partner, because they are key influencers.
Tone of Voice	Aspirational and relevant.

REFERENCES

Surf Life Saving Australia National Coastal Safety Report 2019

The *Surf Life Saving Australia National Coastal Safety Report* (NCSR) is published annually and contains information on Australian community behaviours and attitudes to the coast; SLS capability and membership capacity; rescues and emergency response; and coastal drowning deaths. The 2019 NCSR represents the statistics from the period of 1 July 2018 to 30 June 2019. Trend analyses from 2004-19 are also included.

All care is taken to ensure the statistical information included within this report is correct. However, pending the outcome of ongoing coronial investigations and as SLS state/territory entities update their operational information, this data may be amended.

Surf Life Saving Australia National Coastal Safety Surveys

The annual *Surf Life Saving Australia National Coastal Safety Surveys* collect Information about community swimming ability, behaviours and attitudes to coastal safety. The survey is conducted by Newspoll Market Research and Omnipoll and is run online over a four-day period each April among a national sample of approximately 1,400 respondents aged 16 to 70+. The study is carried out in compliance with 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.

Ipsos Social Research Institute Rock Fishing Report 2016

The *Ipsos Social Research Institute Rock Fishing Report 2016* was a result of research comprised of two distinct methodological phases: a qualitative research component, followed by a quantitative research component. Both phases covered similar topic areas: rock fishing attitudes and behaviours, risk perceptions and safety strategies, rip current identification and safety, information needs and sources, lifejacket use and legislation, and other interventions. The quantitative research phase was carried out in February 2016. This component comprised a national online survey of n=554 male and female rock fishers, aged 18 years or more who had been rock fishing in the last 12 months. This was followed by comprehensive analysis of the data. Given the geographic spread of the Australian coastline, Ipsos SRI used a representative sample of Australian rock fishers, involving the application of non-interlocking quotas according to the following demographic characteristics: gender, age, state, and area. Weighting was then applied to the sample to ensure the representativeness of the data was maintained.

Data illustrated in figures may not always add up to 100% due to rounding.

References

Ipsos Social Research Institute (2016) Rock Fishing Report 2016 . Ipsos: Sydney

Surf Life Saving Australia (2019) National Coastal Safety Report 2019. SLSA: Sydney.

Surf Life Saving Australia National Coastal Safety Survey (2014, 2015, 2016, 2017, 2018, 2019). Newspoll/Omnipoll Online Omnibus April 2014, 2015, 2016, 2017, 2018, 2019.

Data correct at 30 March 2020. Changes may occur at a later date.

Acknowledgements

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Department of Health

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