

KEEPING ROCK FISHERS AFLOAT THROUGH RISK MANAGEMENT

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Abstract

Australian CoastSafe, as part of the federally funded 'Saving Lives in the Water' project to engage in smarter lifesaving strategies, has been tasked to conduct a national first Coastal Public Safety Risk Assessment on the rocky coastline of Randwick City Council in NSW from Cape Banks to Clovelly. The risk assessment, which was conducted to address the growing number of injuries, rescues and deaths of rock fishers, provides all stakeholders with a benchmark document for the ongoing planning and implementation of risk mitigation strategies in the identified area.

The risk assessment was conducted in consultation with the wide range of stakeholders and community groups that includes all levels of government through to community groups and peak bodies relating to rock fishing and lifesaving.

The on-ground field component of the assessment covered approximately 18 kilometres of rocky coastline and cliffs in order to collect spatially referenced information on hazards, infrastructure and current risk treatments and their success. The actual risk assessment process, that is consistent with the framework of the Australian Standard AS 4360 applies spatial data, the ABSAMP beach classification system and beach hazard rating, residential and tourist populations, rock fishing activities and data collected as part of the Coastal Safety Survey, plus records and results from stakeholder interviews and incident reports.

The results of the Coastal Public Safety Risk Assessment are being used to guide a wide range of risk mitigation strategies targeted at reducing drowning deaths along the identified coastline.

1. Introduction

Rock fishing is a highly popular past time that many enjoy around the nation daily. It has also been dubbed the most dangerous sport in Australia. According to the 'SafeWaters' report into the NSW coronial files for rock fishing deaths between 1992 and 2003, not only does this past time have the highest fatality rate of any sport in NSW, but it has also carried significant social burdens such as the constant drain on the medical system, loss of income and productivity and the high cost of search and rescue.

The Issue

Rock fishing fatalities have continued and refuse to subside regardless of the intervention measures tried over the past four decades. While some States have reduced the occurrence of these incidents in recent years, nationally there has not been great improvement. Of the 474 coastal drowning death incidents analysed over the 2004 to 2008 period, 42 (approx. 8.9%) of those have been linked to rock fishing. It is suspected a number of others in the rock/cliff related category could also be attributed to

the sport. Further, in NSW alone for the thirty (30) year period from 1969 to 2000, approximately 218 persons lost their lives whilst rock fishing (Source: SafeWaters).

There are a number of national blackspots that can be attributed to rock fishing. It is now well known that many of the drowning deaths off of the north and south heads of Botany Bay, the Royal National Park in NSW and in the council areas of Randwick and Sutherland are as a direct result of rock fishing, often in dangerous conditions. The Bondi, Dee Why and Manly areas (also in NSW) also have an over representation in rock fishing incident data.

Where the nationality of the victim was able to be verified it was identified that the majority were Australian (28.6% of 218 rock fishing coastal drowning deaths) but 35.7% (of 218) remain undetermined. The remaining 35.7% (of 218) was comprised of foreign nationals either by nationality or original place of birth and primarily from Asian countries (26.19%) including China, Korea and Hong Kong. This presents an accessibility issue as the methods of accessing and presenting safety messages to these target audiences are challenged by the difficulty to narrow down the best place to do so and overcoming the language barriers.

1.1 Coastal Public Safety Risk Management

Coastal public safety risk assessment is an imperative base for any locally based intervention. The scope will vary according to the defined outcomes, but the typical methodology for a coastal audit is as follows:

1. establishing the minimum acceptable level of hazards, risks, and potential injuries at the location;
2. provide economically sustainable options by which the above can be achieved considering both manned services and alternative options to 'manned' services including emergency beacons, angel rings and remote surveillance;
3. whilst having regard to existing life saving services ensure distribution and resourcing of above services are rationalized;
4. provide staging plans for the above considering the environmental conditions, forecast settlement areas, beach access and usage;
5. review the status of aquatic safety and signage management;
6. evaluate the level of compliance or non-compliance with statutory or other appropriate standards.

The coastal public safety risk assessment process is benchmarked upon the Australian Standard AS/NZS 4360 Risk Management. In summary, the Standard provides a generic framework for the application of a risk management process and also contains definitions of terminology, flowcharts of the risk management process and example documentation.

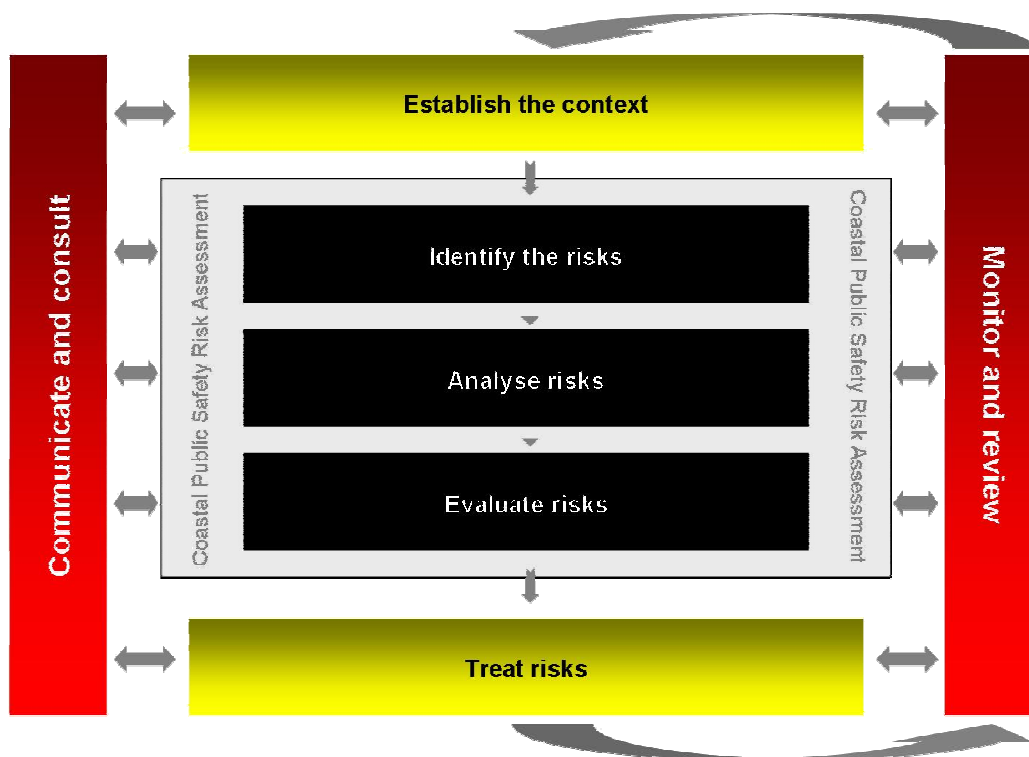


FIGURE 1: Risk Management Process – Overview (AS/NZS 4360:2004)

The main elements of the risk management process, as shown in Figure 1, are the following:

Communicate & Consult

Communicate and consult with internal and external stakeholders as appropriate at each stage of the risk management process and concerning the process as a whole.

Establish the Context

Establish the external, internal and risk management context in which the rest of the process will take place. Criteria against which risk will be evaluated should be established and the structure of the analysis defined.

Identify Risks

Identify where, when, why and how events could prevent, degrade, delay or enhance the achievement of the objectives.

Analyse Risks

Identify and evaluate existing controls. Determine consequences and likelihood and hence the level of risk. This analysis should consider the range of potential consequences and how these could occur.

Evaluate Risk

Compare estimated levels of risk against the pre-established criteria and consider the balance between potential benefits and adverse outcomes. This enables decisions to be made about the extent and nature of treatments required and about priorities.

Treat Risk

Develop and implement specific cost-effective strategies and action plans for increasing potential benefits and reducing potential costs.

Monitor & Review

It is necessary to monitor the effectiveness of all steps of the risk management process. This is important for continuous improvement. Risks and the effectiveness of treatment measures need to be monitored to ensure changing circumstances do not alter priorities.

It is the responsibility of those coastal organisations, agencies and authorities with jurisdiction over coastal areas, including beaches, to minimise and/or identify the risks of injury or death by drowning.

The implementation of an effective risk management program may reduce the incidence of injury and death on the coast. It has been suggested (WHO, 2003) that over 80% of all drowning can be prevented and prevention is the key management intervention.

1.2 The Drowning Chain

The International Lifesaving Federation (ILS) Rescue and Education Committees have identified 4 factors that lead to a drowning.

These are:

1. Lack of knowledge, disregard or misjudgement of the hazard
2. Uninformed, unprotected or unrestricted access to the hazard
3. Lack of supervision or surveillance
4. An inability to cope once in difficulty.

Any of the above by themselves, or a combination of the factors, could lead to a death by drowning.

An understanding of these factors, and how they contribute to a drowning, is very helpful in designing drowning prevention strategies. A focus on one factor may be the best use of available resources, although a multiple factor approach may be needed.

ILS has addressed the above issues by developing the following document “Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving.”

This helps us identify the gaps, and also enables priorities to be set. It is important to remember that not all strategies will be appropriate in all locations. The ILS report sets out a range of initiatives that have been successful throughout the world in various countries.

The strategies that have been identified to address each of the 4 aspects of the drowning prevention chain are:

1. Education and information
2. Denial of access, improvement of infrastructure and/or provision of warnings
3. Provision of supervision, and
4. Acquisition of survival skills

A risk assessment should be conducted to analyse the impact of each alternative and a cost benefit analysis completed to ensure that the most effective strategies are introduced.

The application of the Drowning Chain to the issue of rock fishing provides a clear framework by which all factors can be addressed.

“Chain”

Please note that while the word “chain” has been used within this manual, we do not imply that the relationship between the 4 factors is linear. Each factor has an individual contribution to death by drowning and drowning prevention. We use the word “chain” to indicate that an appropriate control measure (intervention strategy) introduced at an appropriate point within the chain will lead to a reduction in drowning. The word “cycle” is sometimes used in lieu of the word “chain”.

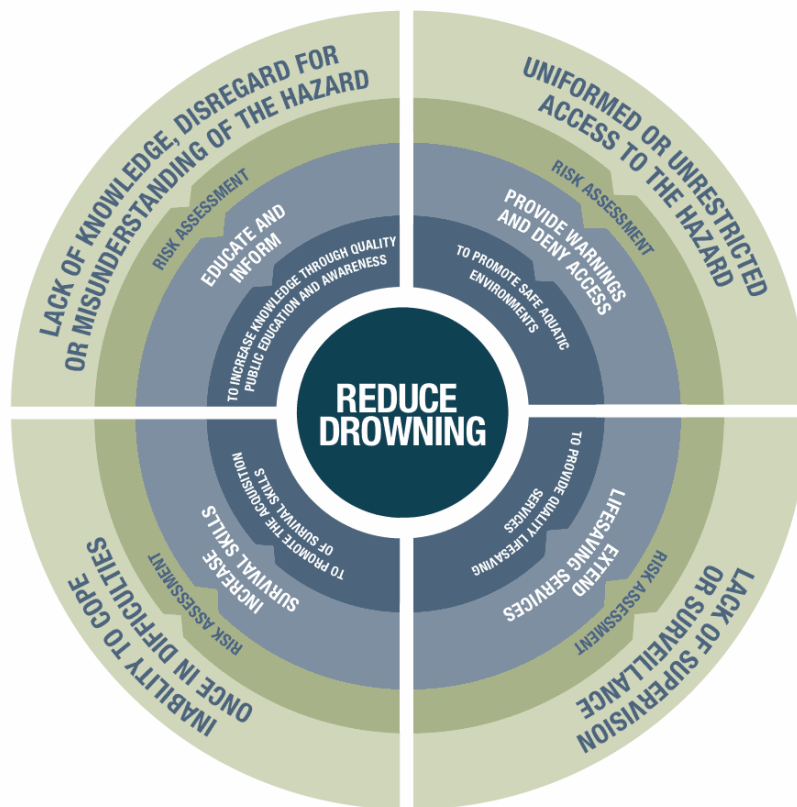


FIGURE 2: A graphical representation of the drowning chain and prevention strategies

Through a thorough and rigorous risk management process each sector of the drowning chain can be addressed and the best mitigation strategies be implemented in the most effective manor possible.

While rock fishing as a national issue has been highlighted it can be narrowed down into a few key areas. Randwick, a national blackspot, previously has not been assessed and the current assessment is a first of its kind. The report would provide substance to justify interventions to the council as well as a firm logical basis for an overall intervention to reduce rock fishing fatalities.

1.2 Target Audience

Findings of the 'investigation into the coronial files of rock fishing fatalities that occurred in NSW between 1992 and 2000 show that out of 74 fatalities almost 88% were Australian residents and 31% were Australian by origination. The data set also shows 40% were from the mid to northern Asian region specifically China, Korea and Vietnam and 69% of victims were born outside of Australia.

These findings are consistent with national SLSA data for the 2004-2008 period. Of the 42 fatalities attributed to rock fishing, 12 were born in Australia, 4 China, 2 Korea and 2 Hong Kong. There were however 15 out of the 42 deaths where the nationality was unknown.

According to the same data set, the local government areas with the highest rock fishing fatalities in NSW were Randwick and Gosford which each had 4 fatalities followed by Warringah and Sutherland which each had 3. This is consistent with prior year data from the coronial investigation in NSW. In other States, Bass Coast in Victoria had 4 fatalities over the 2004-2008 period. Western Australia also has a cluster along the outer Perth city coastline with one fatality in Cottesloe, Joondalup and Stirling each over the same period.

Primary Audience

As a result of these drowning deaths together with information gained through the coastal public safety risk assessment process SLSA and its community and government partners is currently developing a rock fishing safety campaign based on both high risk localities and the high risk populations.

English, Chinese (Cantonese and/or mandarin), Korean and Vietnamese materials are being produced to target the high risk groups highlighted in the overview. The campaign focus would be directed towards these population groups closer to the high risk locations in the greater Sydney area (NSW) specifically Manly, Dee Why, Randwick and Sutherland, Gosford and also the Bass Coast (Vic).

Secondary Audience

Pending the ability to branch out beyond the primary audience, local government areas that are of slightly lesser risk can be targeted with the same campaign.

Further, while the campaign would be targeting rock fishing, anglers in general would benefit from these safety messages. Whether on the beach or on a boat the safety messages apply.

1.3 Existing Intervention Strategies & Key Message

An assessment of existing rock fishing intervention strategies (outlined below) has been made and found that varying interventions, such as the 'Don't put your life on the line' campaign, have had an emphasis on different safety aspects that include preparation, gear & equipment and observation whilst fishing.

As part of the new campaign a common set of safety messages has been derived to remove any minor differences and inconsistencies which will enhance the effectiveness of the national campaign moving forward and to ensure all agencies promote the same message.

Research into target audience traits has indicated that a high proportion would have been born outside of Australia and have varying levels of English language skills. This suggests that the messages will need to be short, to the point, use symbols and easy to interpret. Numerous and relevant pictures and animation are being used to accompany the message/s as well as the production of multi-lingual materials.

Review of existing strategies

Several programs are currently running to address rock fishing safety. In Australia, an initiative commenced between the NSW Branch of the Australian National Sportfishing Association (ANSA), the Recreational Fishing Alliance (RFA) of NSW and 'SafeWaters' which includes a number of government authorities. The 'Don't put your life on the line' campaign is aimed at overall rock fishing safety covering preparation, gear and equipment and observation whilst fishing. During the campaign, three workshops encouraging safe practice were also held with rock fishers as a part of the program.

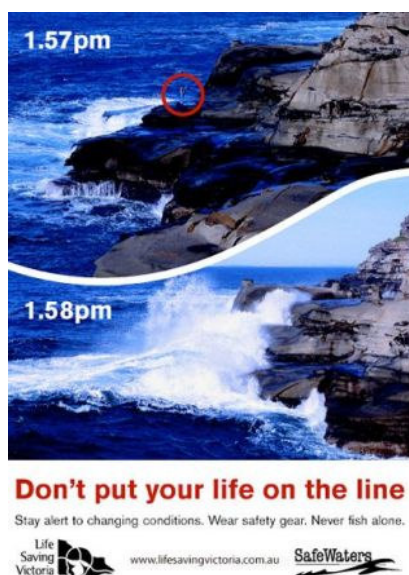


FIGURE 1: A poster from the 'Don't put your life on the line' campaign.

The following brochure was produced in a number of languages including Korean, Cantonese and Vietnamese and distributed to cultural centres and fishing outlets such as tackle shops and larger retail chains. There was also a translated DVD produced in key languages and 200,000 copies were distributed through a number of channels, such as trade shows, community centres, websites and workshops, and are available by request through the safe fishing website while stocks last. Life Saving Victoria has also adopted the campaign, DVD and other materials, and is continuing the initiative.

ROCK FISHING SAFETY

Don't put your life on the line

- ✓ WEAR LIGHT CLOTHES AND NEVER FISH ALONE
- ✓ WEAR THE CORRECT FOOTWEAR - NON SLIP SOLES
- ✓ LIFE VEST IS BEST







Never fish in exposed areas during rough seas, find a calmer spot



If someone is washed into the ocean, DON'T jump in after them



Look for available angel ring, life buoy or something that floats



Throw the life buoy, or something that floats, to the person in the water



Dial 112 on your mobile phone or go to get help.

ALWAYS check weather conditions and tides before going rock fishing



For more information:
 Angel ring locations www.ansanew.com.au
 Rock fishing safety information www.fisheries.nsw.gov.au or www.safetowarda.nsw.gov.au
 Up to date weather information www.bom.nsw.gov.au
 Up to date tides www.rif.finders.edu.au
 Report missing angel rings 1800 070 008
 Weather information by phone 1800 887 107
 Rock club stockists 9881 7887

EMERGENCY NUMBERS

Mobile 112 Landline 000

Got a new angel ring location?
 Let ANSA NSW know and we will investigate.
 Phone 1800 070 008
 or write to us at
 PO Box 326
 Murrumbidgee NSW 2586



FIGURE 2: A brochure targeted a CALD groups has been reproduced in a number of languages including Korean, Cantonese & Vietnamese

Also the “Angel Ring” Project of the Australian National Sportfishing Association (ANSA) has been going in NSW since 1994. Angel Rings are life buoys installed at popular ocean rock fishing spots across NSW and now into Victoria. The intention of the project is to target high risk areas and to provide the floatation aid until help can be contacted and mobilised. There have been 86 rings have been installed to date in NSW.

According to the latest reports from ANSA (NSW) Angel Rings have saved at least 30 lives to date. There is also training material being developed in conjunction with the NSW police so that patrol cars in high risk areas can carry Angel Rings to be used when required.

An alternative approach to rock fishing safety can be found across the Tasman. New Zealand authorities are driving the same safety messages using the same phrase ‘Don't put your life on the line’. However, there is a distinct focus on the use of life jackets.



FIGURE 3: A campaign from New Zealand aimed at increasing the use of lifejackets

The New Zealand campaign collateral and financial incentives are based around inflatable lifejackets, one offering a \$20 voucher to anyone found by representatives to be wearing lifejackets while rock fishing and the other providing a significant discount on a brand of lifejacket that has partnered with the campaign.



FIGURE 4: The same campaign from New Zealand offering a discount on the purchase of lifejackets.

It would be detrimental to discontinue the use of the phrase ‘**Don’t put your life on the line**’. It is essential to keep driving this message and look at bolstering the resources currently being invested into rock fishing safety.

However, there is a clearer focus of the campaign in Australia. Options include:

Creation of specific rock fishing safety signage

Our New Zealand counterparts and some local councils have also started posting high visible safety signage along access tracks and at car parks of popular and high risk rock fishing areas. The signage has a number of languages so that language barriers are overcome. Unfortunately, vandalism is still a risk and safety signage can be easily ignored.

The expansion of the angel ring project

Drive and fund the expansion of the angel ring project and focus in the campaign on ensuring fishing in close proximity to this public lifesaving resource. Angel rings are placed in high risk areas addressing the blackspot issue and relatively easy to use. However, there have been issues with theft, vandalism and the need to continually audit the Angel Ring network.

Current project and workshop rollout

Following the feedback stipulating the usefulness of the workshop, SLSA will have the option to simply expand the workshop program. Our thorough training structure and skills allow us to refine course content and rollout the workshops nationally. We are using our extensive distribution network to deliver the existing rock fishing safety resources to a wider proportion of the population across all states and territories.

The use of lifejackets

There is an argument that many of our target audience are not be able to afford lifejackets but this could be softened by similar financial incentives seen in New Zealand. It maybe necessary to lobby for legislative changes to remove GST and any import duties associated with life jackets to further reduce the cost.

'Don't put your life on the line' has several coupling messages that all address the safety precautions that those rock fishing should take. Any of the following messages could be used:

- Wear a life vest, 'Life vest is best'
- Never fish alone
- '000' or '112' for emergencies
- Wear the right clothes and shoes
- Stay alert to changing conditions
- Check the tides and the weather

Definition of Key Message

Under the campaign phrase **'Don't put your life on the line'** the following safety advice is being endorsed:

- **Never fish by yourself** – stay in sight of another person fishing
- **Inform others of your plans and carry a mobile phone.**
- **Wear light clothing** – it will allow you to swim easily if you are washed in
- **Check tides and weather** – avoid fishing in dangerous conditions and observe tide changes.

- **Wear appropriate footwear – with non-slip soles** – and avoid the waters edge.
- **Wear a life jacket or PFD** and carry safety equipment in case someone should fall in.
- **Observe first – fish later** – spend time watching the fishing spot before actually fishing
- **Plan an escape route** – if washed in, stay calm and swim **AWAY** from the rocks to look for a safe place to come ashore or stay afloat and wait for help
- **Don't ever turn your back on the sea**
- **Ask advice from locals**
- **If its too rough, go home**

IF YOU WITNESS SOMEONE BEING WASHED INTO THE OCEAN, follow these simple steps:

1. **DO NOT** jump in if someone is washed into the water
2. Use a rope, Angel Ring close by, something that floats to rescue the person
3. Dial 000, or 112, from your mobile or go get help

2. Risk Management – Randwick Coastline Rock Fishing Safety Risk Assessment

At present Australian CoastSafe is finalising the coastal public safety risk assessment for the entire length of Randwick's coastline commencing at Cape Banks in the south and extending to Clovelly cemetery in the north. A draft document has been completed which underpins the strategies being implemented as part of the intervention.

The coastal public safety risk assessment process, consistent with the framework of the Australian Standard AS 4360, applies spatial data and images, the ABSAMP beach classification system and beach hazard rating, residential and tourist populations, rock fishing activities and data collected as part of the Coastal Safety Survey, plus records and results from stakeholder interviews and incident reports, plus records and results from an extensive on-site assessment of the coastal zone. The result is a detailed report that has provided:

- Identification of coastal hazards e.g. sub-surface reefs, channels and rips, tidal impacts
- An assessment of the risk that the identified coastal hazards pose to public safety
- Risk mitigation strategies and remedies for identified threats to public safety
- Assessment of safety signage requirements relating to warnings, regulations and lifesaving services according to identified hazards
- Recommendations on the necessary lifesaving services including personnel, training, coverage, communications and rescue equipment and emergency back-up.

- Australian CoastSafe has also developed and tested the Lifesaving Service Level Calculator, designed to assist in the determining of personnel and equipment requirements for lifeguard operations. This calculator uses a number of inputs in the determination of service levels, for example:
 - Coastal hazard rating
 - Peak visitation
 - Peak visitation frequency
 - Type of user
 - Incident History
 - Remoteness

- Benchmarking against Australian and international standards and best practice guides such as the Australian Coastal Public Safety Guidelines
- Other risk treatments and controls

A key difference in the current project is the application of the ABSAMP beach hazard rating to the wider coastal zone of rock outcrops and headlands. This has never been done before and if successful will widen the scope of possible future hazard rating and risk assessment to the entire Australian coastline and not just beaches. This adaption is being made with the assistance of Professor Andrew Short, who developed ABSAMP in the early 1990's.

The coastal risk assessment has provided vital supporting evidence needed for the proper implementation of risk treatments and mitigation strategies. Through a thorough and rigorous assessment of all the hazards and risks on there merits the result will be a holistic “*strategy to reduce rock fishing fatalities*”.

2.1 Coastal Safety Survey

The coastal public safety risk assessment has been supplemented by a coastal safety survey. This survey focused on the collation of demographic information of rock fishers in the area. A similar exercise was conducted in Victoria around the San Remo region, a state rock fishing blackspot area. Information collected includes:

- Gender;
- Age;
- Area of residence;
- Nationality/place of birth;
- Frequency of visitation;
- Experience in activity;
- Safety measures taken;
- Knowledge of safety advice.

The information collected through this survey allows effective and targeted education initiatives to occur and induce the cooperation of councils where these groups reside.

Some key results from the survey were:

- 75% (of 42) of respondents indicated that they never wore a lifejacket or carried a buoyancy aid when rockfishing.
- 50% (of 42) do not wear shoes with non-slip soles or cleats.
- 65.4% (of 55) thought that it was unlikely that they would get swept off the rocks resulting in their drowning.
- 19.6% of respondents said that they knew someone that had been swept of the rocks while rockfishing.
- 34.5% (of 55) consider rockfishing no more risky than any other aquatic activities
- 85.7% (of 56) believed that they could float comfortably for at least 15 minutes unaided in a swimming pool.
- 82.1% did not hold a current first aid certificate.
- 66.1% did not know how to perform CPR.

2.2 Incident Analysis, Monitoring and Review

Often a part of a coastal public safety risk assessment, an incident analysis is required to identify key risk areas. Details include victim details, time of day, tides, precise locations and the contributing factors. This refers not only to drowning deaths, but also rescues and preventative measures taken.

This analysis is required as an ongoing part of the intervention process. It is required to measure the success of interventions and also highlight any changes to the target demographic in a location.

2.3 *SLSA Service Observation Survey*

In key target areas where SLS resources are available, an additional survey is being conducted to collate information about the targeted area and demographic group. This survey supplements the findings of the coastal safety survey and also the coastal public safety risk assessment by collating data such as:

- Number of rock fisherman in the area
- Appearance
- Safety measures observed
- Behaviour

3. The Rock Fishing Safety Intervention Strategy

A national rock fishing safety working group has been established by Surf Life Saving Australia (SLSA) and includes Surf Life Saving New South Wales (SLSNSW), Australian National Sportfishing Association (ANSA), the Australian Recreational and Sportfishing Industry Confederation (RecFish Australia), the Recreational Fishing Alliance of NSW (RFANSW) and the Westpac Life Saver Helicopter (Greater Sydney Region).

The working group has assessed historical, existing and planned interventions for rock fishing safety and developed a national strategy to address the issue of ongoing rock fishing fatalities. The flowchart below outlines this strategy.

Rock Fishing Safety Intervention "Don't Put Your Life on the Line"

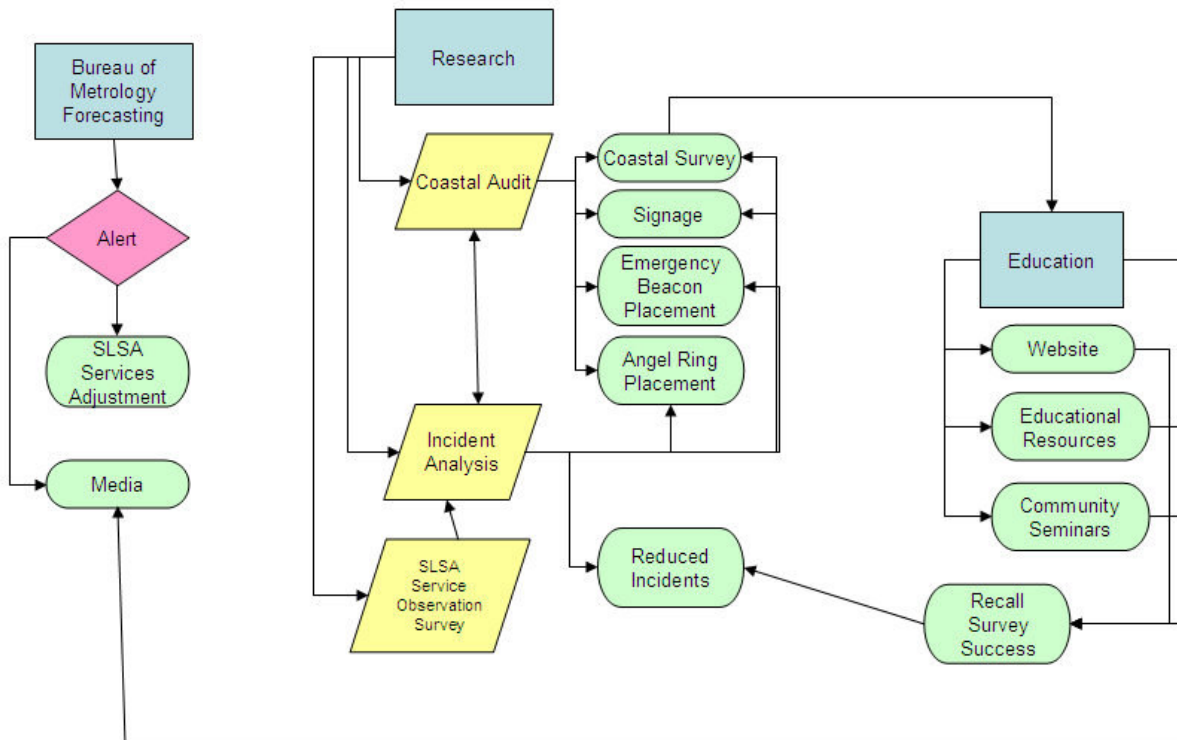


FIGURE 5: The process flow for the Rock Fishing Safety Intervention

Predicting Hazardous Conditions for Rock Fishing

An alert system during high risk periods for rock fishing is essential for reduction of rock fishing related fatalities and an important part of the drowning chain.

3.1 Model Concept & Alerts

A physical model study for predicting hazardous conditions for rock fishing is currently in development by the University of New South Wales (UNSW) Water Research Laboratory. The model uses a number of variables including the significant wave height, peak period (distance between each wave in seconds) and the angle of incidence to the coast.

The intention of the study is to allow an alert or warning to be issued in the future.

It is also hoped that the Bureau of Metrology (BoM) will issue dedicated rock fishing warnings which would ideally be broadcast on television and radio networks, including community stations with key demographic targets.

It is important to note that these warnings are a guide and does not consider other variables such as rock fisher experience and safety measures taken by that fisher and the risk may vary.

3.2 SLSA Service Adjustment & Media

In addition to the BoM website, the warning would be displayed via a number of outlets including the SLSA and fishing websites and news stations, both radio and television. It will essentially be part of any regular weather report.

Most significantly, it would allow Surf Life Saving (SLS) resources to be adjusted accordingly. Services can be expanded in high risk areas and surveillance increased so that the risk of rock fishing incidents occurring is minimised and services are placed more effectively.

3.3 Adaptation of the Model

The first version of the study will be for the Sydney metro only as it is dependant on the geographical features of rock platforms. The study maybe adaptable to other types of rock fishing platforms on the Australian coastline and if it is successful, funds should be directed to allow further development.

3.4 Research

High incident areas and populations need to be examined and analysed as a part of the rock fishing related incident reduction process. By identifying these locations and demographic groups, resources including lifesavers, funds and education programs can be effectively targeted.

3.5 Education

Education is another critical facet of the prevention aspect of the rock fishing safety intervention. This step is critical to increase the awareness of the hazards of rock fishing, not just in the areas where fatalities are occurring but also where target demographic groups reside.

3.6 Website

The first step in increasing rock fishing safety awareness is the creation of a central website that includes all existing and new information. This step has already been taken by RFA NSW and can be found at www.safefishing.com.au. It has a range of safe fishing information for both rock fishing and freshwater which includes the DVD safety video via a YouTube link. This site will now become the central site for safe fishing information.

The website can be found at www.safefishing.com.au (Figure 6).

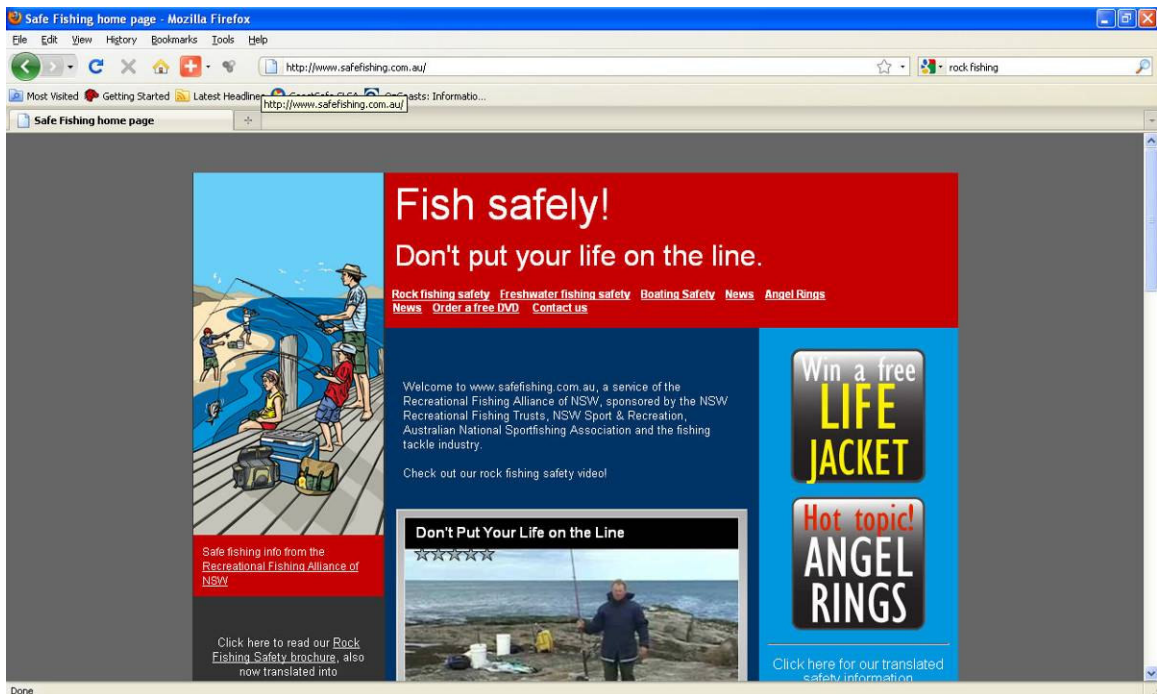


FIGURE 6: The www.safefishing.com.au website, complete with video and multi linguistic fact sheets

3.7 Educational Resources

The educational resource (originally produced by ANSA NSW and RFA of NSW) including safety brochures, safety DVD and CDROM will continue to be reproduced as required. At this time, the resource is produced in English, Cantonese, Vietnamese and Korean (see Figure 7 below). This may need to be updated and amended according to updated incident data and the intended area of distribution.

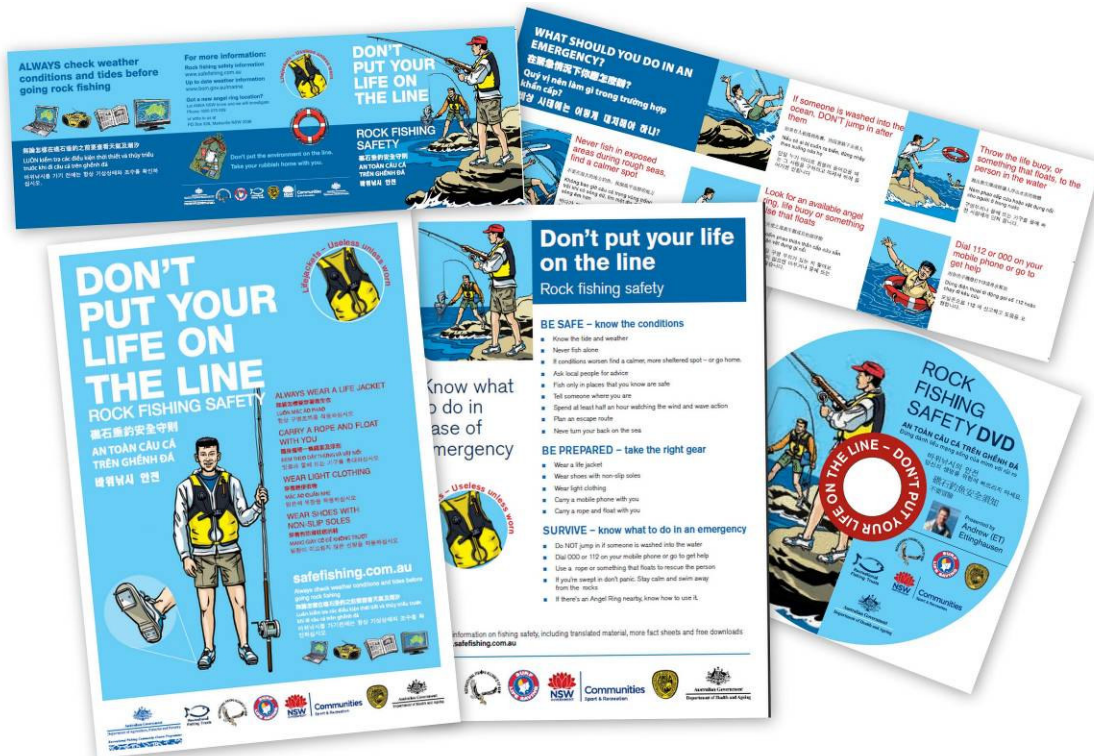


FIGURE 7: Some examples of the educational resources that have been produced.

3.8 Community Seminars

As mentioned, community seminars were conducted in NSW as a part of a targeted intervention for the Randwick blackspot. However, it was noted that this intervention carried a high cost which maybe more effectively utilised. An alternative would be conducting rock fishing safety seminars at town halls in key demographic areas as per the findings of the coastal risk audits or surveys.

3.9 Media

The media will continue to be advised of rock fishing safety projects and most importantly rock fishing safety advice and alerts (once available). An 'ethnic media buy' will be a key national initiative that includes community print and radio and also airtime on mainstream stations to promote the rock fishing safety messages and material.

4 Measures of Success

Overall campaign measure of success

The key performance indicator (KPI) for the rock fishing safety intervention and measure of success will be the reduction of rock fishing related fatalities. It is important to not only look at only a fall in drowning deaths, but also rescues and preventative actions with relation to rock fishing.

Other measures of success

Due to the typical time delay of observing a reduction in rock fishing related incidents other KPIs include:

- A targeted recall survey for rock fishing safety information
- An observation survey that examines the use of rock fishing safety equipment to gauge an increase/decrease in usage.

5 Acknowledgments

Surf Life Saving Australia would like to acknowledge the following partners in this strategy:

- Surf Life Saving New South Wales
- Westpac Life Saver Helicopter Greater Sydney Region
- Australian National Sportfishing Association
- Recreational Fishing Alliance of New South Wales
- RECFISH Australia

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Recreational Fishing programs are supported by the Australian and NSW Government through funding received from the Department of Agriculture, Forestry and Fisheries and the NSW Recreational Fishing Trust Fund.

6 References

New Safe Fishing Website
<http://www.safefishing.com.au/>

Prediction Model
www.coastalconference.com/2007/papers2007/Julie%20Evans.doc
http://www.youtube.com/watch?v=EmUz_5e1J8o

Current Education Resources
<http://www.rfansw.com.au/Projects.html#Projectsfishingsafety>
http://www.rfansw.com.au/Documents/01-2217Rockfish_safetyv2.pdf
<http://www.youtube.com/watch?v=4O-yKhyZJrw>

Angel Ring Project
<http://www.angelrings.com.au/>

Life Saving Victoria 2008 Coastal Survey
<http://www.lifesavingvictoria.com.au/www/html/1002-angel-ring-pilot-project.asp>

Safewaters Report, NSW
http://www.safewaters.nsw.gov.au/assets/pdf/rockfishreport_sept03.pdf

NCSR Raw Data 2004 – 2008, see 2009-2011 SLSA Total Service Plan

AS/NZS 4360:2004 Risk Management

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