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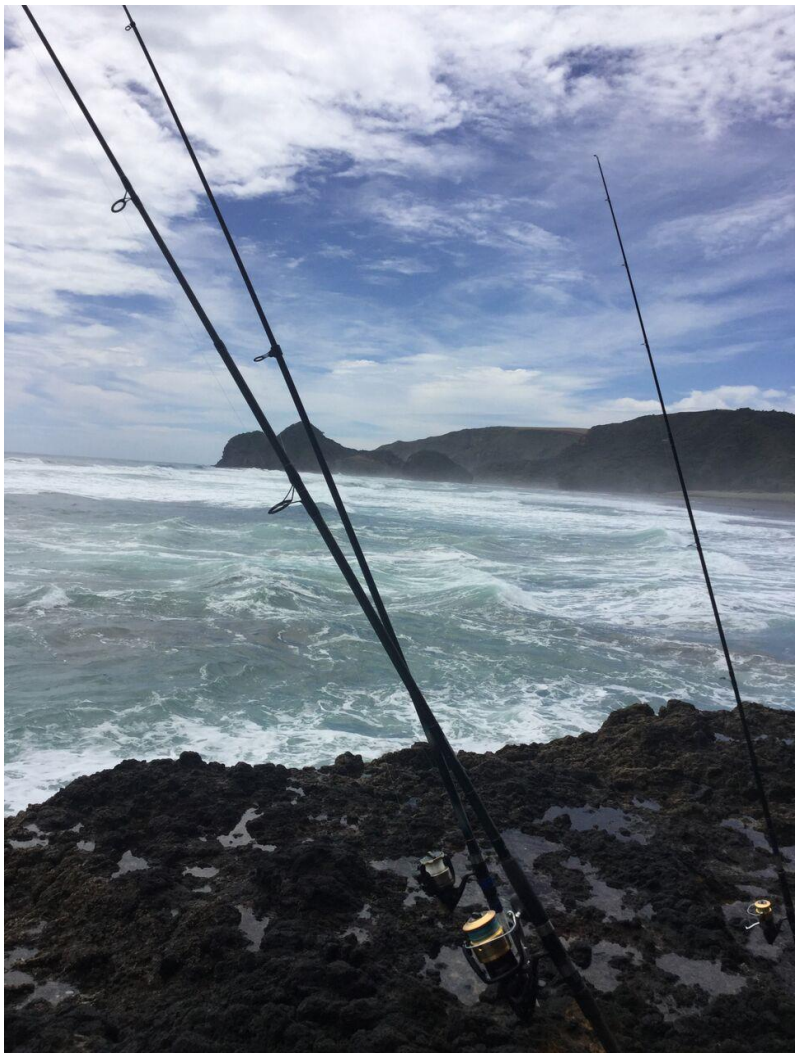
Te Kaunihera o Tāmaki Makaurau

SURF LIFE SAVING
NORTHERN REGION

West Coast Rock-based Fisher Safety Project 2019



Preface and Acknowledgements

This report is an evaluation of the 2019 West Coast Rock-based Fishers Project developed by the Auckland Council, Surf Life Saving Northern Region (SLSNR), and Drowning Prevention Auckland (DPA). It reports on the 14th year of the Project during which time many people have been involved in supporting and promoting water safety to prevent drowning. As in previous years, many people have given their time and energy both in a work and volunteer capacity to promote safety among our west coast rock-based fishing community.

We would like to thank the Iwi of Te Kawerau a Maki, and the Lusk and Woodward families for again allowing Angel Rings to be installed on their land and allowing us access to maintain them.

The project would not have been possible without the input of Ben Julian, Sam Turbot, Stephen Butt and Liam Parkin of Surf Life Saving Northern Region; and Harry Aonga, James Lea, and Clayton Wikaira from Drowning Prevention Auckland. Stuart Leighton, Auckland Council park ranger should again be recognised for his outstanding commitment and leadership of the project in the field.

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Further copy of the report is available in PDF format on the Drowning Prevention Auckland website under Community/Research/ Rock Fishing at: Available in PDF format at:
http://www.watersafe.org.nz/family-communities/research-and-information/rock-fishing/

Executive Summary

1. Background

This is the fourteenth year of the *West Coast Rock-based Fisher Safety Project*, a collaborative intervention by the Auckland Council, WaterSafe Auckland Inc. (WAI), and Surf Life Saving Northern Region (SLSNR). This report provides information on the impact of the intervention aimed at reducing rock-based fishing fatalities and promoting a safety culture among this high risk group of aquatic recreationalists.

2. Purpose

The purposes of this fourteenth year of the project were threefold:

1) To continue the on-site rock fishing safety education promotion initiated in 2006,
2) To determine the effect of the project on Auckland's west coast fishers' safety practices and beliefs in the 2018-19 season,
3) To make recommendations for future rock fishing safety promotion based on the information obtained in the survey conducted during the 2018-19 season.

3. Methods

A cross sectional study of fishers at 4 high risk locations on Auckland's west coast was undertaken during the summer safety campaign in 2019. A total sample of 24 fishers voluntarily completed the electronic survey. The survey sought information on participation in previous surveys, awareness of the current fishing safety promotion, awareness of west coast angel rings as public rescue equipment (PRE), and perceptions of fishing dangers and their capacity to manage associated risk when fishing from rocks on Auckland's west coast.

4. Key Findings

4.1 Participant demographics:

- The sample was male (100%) and most (92%) were aged 45 years or older.
- The respondents were primarily Asian peoples (92%), of these most (83%) were of Chinese descent.
- Three quarters (75%) had lived in New Zealand for more than 10 years, 21% had lived in New Zealand for less than 10 years.
- Familiarity with the site continued to increase compared to previous years, with more than one half (58%) having visited the site where interviewed >20 times. Almost one third (29%) had visited the site <10 times.
- The reason all fishers gave for fishing on the day of interview was fun and enjoyment (100%).

4.2 Awareness of the West Coast Rock-based Fisher Safety Project

- Two thirds of fishers (67%) reported that they were aware of previous west coast fisher safety projects (2018, 26%).
- Of these, most fishers (75%) thought that the campaign had been successful, one fifth (19%) thought it highly successful, and 6% did not know.
- Most fishers (79%) were aware of the current 2019 Project (2018, 39%).
- Of these, most (84%) identified the fishing advisors and newspapers (10%) as their source of information.

4.3. Public Rescue equipment (PREs) – angel rings, throw bags etc

- Most fishers (92%) had seen the on-site angel rings (2018, 79%).
- Most fishers (63%) had not read the instructions on how to use the angel rings (2018, 51%).
- Most fishers (63%) thought that they could use the angel rings in an emergency (2018, 75%).

4.4. Perceptions of Drowning Risk

- Most fishers (58%) agreed that getting swept off rocks was likely to result in their drowning (2018, 63% agreed).
- All fishers (100%) agreed that drowning was a constant threat when fishing from rocks on the west coast of Auckland (2018, 57% agreed).
- Almost one half (42%) disagreed that other fishers were at greater risk than themselves and disagreed (42%) that they were strong swimmers compared with others (2018, 53% and 43% respectively).
- All fishers (100%) agreed that wearing a lifejacket made rock-based fishing safer (2018, 84% agreed).
- All fishers (100%) avoided fishing in bad weather (2018, 88% agreed).
- All fishers (100%) thought that turning their backs to the sea was very dangerous (2018, 87% agreed).
- Most fishers (63%) disagreed that their swimming proficiency would get them out of trouble (2018, 61% agreed).
- Most fishers (79%) thought that their local knowledge of the site would keep them out of trouble (2018, 65% agreed).
- Almost all fishers (96%) thought that their experience of the sea would keep them safe when fishing from rocks (2018, 78% agreed).

4.5. Water Safety Behaviours of Fishers

- One half (50%) reported *often/always* wearing a lifejacket/buoyancy aid (2018, 21%).
- Fewer fishers (21%) reported *never* wearing any lifejacket/buoyancy aid (2018, 30%).
- Most fishers (96%) reported *never* consuming alcohol when fishing (2018, 87%).
- Most (54%) reported *sometimes/often* wearing gumboots/waders (2018, 56%), almost all (96%) reported *sometimes* going down rocks to retrieve snagged lines (2018, 56% and 24% respectively).

4.6 Self-reported Changes in Fishers' Knowledge, Attitudes and Behaviours

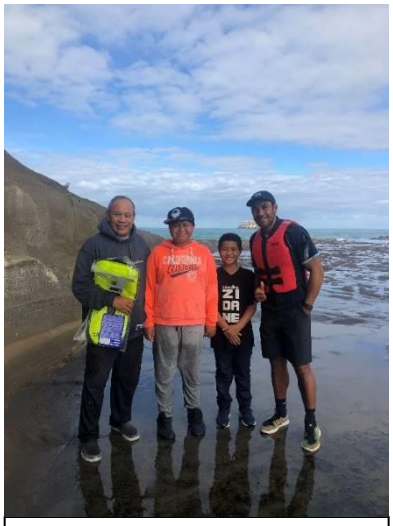
- Most fishers (96%) considered that their safety knowledge had improved in the past year (2018, 82% agreed).
- Most fishers (96%) considered that their safety attitudes had improved (2018, 84% agreed).
- Most fishers (92%) thought that their safety behaviour when fishing had improved (2018, 87% agreed).
- Most fishers (63%) thought that the safety behaviour of their mates had improved (2018, 60% agreed).
- Most fishers (75%) considered that the safety behaviour of other fishers (48%) had improved (2018, 48% agreed).

TAKE AWAY POINTS

- The survey was confined to 4 high risk sites, the sample was exclusively male, predominantly of Asian ethnicity and older than 45 years of age.
- The respondents were more familiar with the site where they were fishing than previous years.
- More fishers reported often/always wearing a lifejacket, especially relevant to the remoteness of the sites where the survey took place.
- More fishers were aware of past and the current Rock Fishing Safety Project.
- Perceptions of the severity of risk, their vulnerability to that risk and the efficacy of preventive actions were all more positive than previous years.

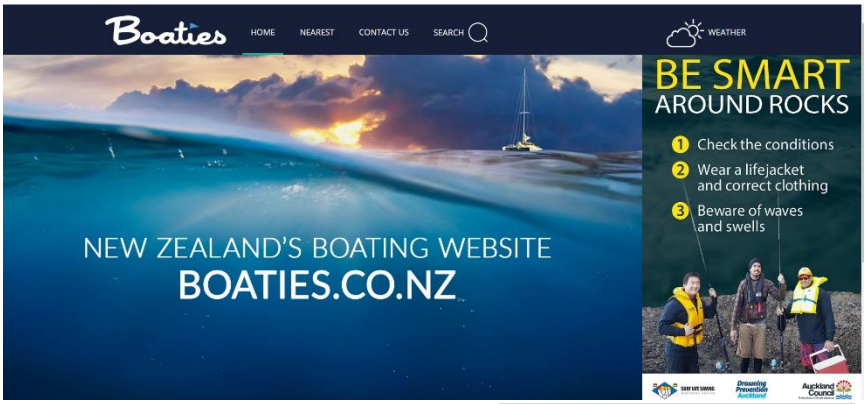
Drowning Prevention Auckland – Rock-based Fishing Project 2018
Education Outputs

- Two days Coastal Awareness training and half a day Coastal tour training for Rock Fishing Advisors
- Rock Fishing Launch with partners Surf Lifesaving Northern Region and Auckland Council
- 4 x rock fishing seminars/presentations with Birkenhead College year 10 students, Alternative Education North Shore, Aktive Asian Harbour Sport and Marist Rugby League under 16 and 17's.
- 20+ presentations to groups on land-based fishing safety (part of our water safety presentations)
- Net Fishing added into DPA e-learning resource
- Land Based Fishing safety promoted at Hutchwilco Boat Show and other events.
- 2 x 'On the rocks' lifejacket giveaway sessions – Both at Muriwai Beach promoting the wearing of lifejackets when rock fishing
- 2 x practical fishing workshops with Aktive Asian and Birkenhead College
- Promotion of rock fishing safety on Boaties website and Fishing Outdoors Newspaper



Lifejacket Promotion on the rocks – Harry Aonga at Muriwai Beach with Rev Lui.Tupa'i and his children the winner of a free lifejacket

Birkenhead College Year 10 students land based fishing at Cornwallis Wharf



Boaties Website – Rock Fishing safety message

Aktive Asian group crab fishing workshop at Urititi Beach

Fishing and Outdoors Newspaper April 2019 – Rock Fishing Safety message

RECOMMENDATIONS

On the basis of the findings, it is recommended that:

1. Auckland Council:

- Retain the services of the safety advisory for a 2019/20 summer campaign
- Continue to provide regional leadership and support future fishing safety promotion, including the installation of angel rings and safety signage at high risk sites.
- Increase provision of public rescue equipment (PRE) in the form of angel rings and throw ropes at 3 popular but remote locations in order of priority:

1. *South Side of the Ninepin Is at Whatipu*
   "The Ninepin does already have an angel ring on the north side. This is ideal if anyone gets into trouble accessing the Ninepin when the tide is in. However, it is too far away to be of any use to anyone that is actually fishing on the south side. After talking to fishermen, they all said that if someone got in trouble while fishing they wouldn't even bother about getting the ring as its too far away. The south side currents are incredibly strong so every second counts in how quickly they can get a floatation device or rope. An angel ring with an attached throw rope would be essential. The site is one of the most popular fishing spots on Auckland's west coast and is known for some night fishing expeditions."

2. *East Side of Paratutae Is. at Whatipu*
   "This is the most popular spot for fishing on Auckland's West Coast due to it being sheltered from broken waves and the prevailing wind. However, due to it being just within the Manukau Harbour mouth it experiences gyres, strong currents and rip tides as well as surging waves. Due to the high population of fishermen in this spot an angel ring could very well come in handy."

3. *Raeakiaki Point Bethells Beach*
   "This point is a relatively common fishing spot which is subject to tidal access. Being at the far south end of Bethells Beach, an area with poor reception, response times can be long especially if there is no patrol. An angel ring would greatly benefit anyone washed into the sea, keeping them afloat till help arrives."
   (Julian, 2019 - SLSN)

(Refer Rock Fisher Advisor comment in Appendix 2 Operational Report)

2. Drowning Prevention Auckland, Surf Life Saving Northern Region and other safety organisations:

- Increase promotion of lifejacket use
- Commit resources and personnel to the ongoing work collaboratively with all partners to promote best practice for West Coast fishing safety education beyond 2019 via:
  - *"Specifically educate the rock fishers on the dangers involved with fishing on the rocks near surging waters*
  - *Survey the population involved with rock fishing to determine nature and extent of fishing practice*
  - *Continued use of an SLSNR RWC partnered with an Advisor to transport and support them along the coast*
  - *Using a purpose fitted drone for a land-based Advisor to increase their efficiency and safety on the job*
  - *Continue to explore the use of technology in Rock Fishing safety education.*
  - *Review and refine the Survey*
  - *Continued use of a Tracking Device and Report Form*
  - *Coastal Awareness Course training for both Rock Fishing Advisors and RWC Rock Fishing Operator*
  - *Increase support to fishermen who want to improve their safety by providing better access to an ideal PFD for West Coast Rock Fishing, possibly through sponsorship and subsidies.*
  - *Continue to work with partners to develop the program*

- *Work with Council on a presentation to secure funding for the program's future*
- *Employ: 1 x Rock Fishing Advisor with 1x RWC Operator on RWC (Saturday-Sunday x 8 Hours per day x 5 Weeks)*
  2 x Rock Fishing Advisor with Drone (Monday-Friday x 8 Hours per day x 12 Weeks)"

(Julian, 2019 - SLSN)
(Refer SLSN comment in Part 2 Operational Report)

3. Recreational fishers, fishing organisations, lifejacket retailers and manufacturers, fishing outlets:

- Adopt and endorse the fishing safety messages promoted by the 2019 West Coast Rock-based Fisher Safety Project.
- Encourage others in the rock fishing community to adopt safe practices - **especially the wearing of lifejackets when fishing at Auckland's high-risk west coast locations**.
- Support the work of frontline fishing advisors and lifeguards in their efforts to make rock fishing a safe and happy experience.
- Advocate for the promotion of rock fishing safety with community groups especially those that are identified high-risk including new migrants, Pasifika and Asian peoples.

Flat Rock, Muriwai

An easily accessed but high risk site and Regional Park. It regularly attracts fishers and tourists, summer or winter, rain or shine. Sadly, it is also a place of tragedy for those not aware of the hazards and risks that this site poses.

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Project Progress

1. History

In 2006, a rock-based fisher safety campaign was launched in the Auckland region of New Zealand to combat the spate of surf-related drowning incidents associated with fishing from rocky foreshores. The Auckland Regional Council (ARC), WaterSafe Auckland Inc. (WAI), and Surf Life Saving Northern Region (SLSNR) initiated a fishing safety campaign entitled the *West Coast Fishing Safety Project* in the summer of 2006. The campaign established a fishing safety education programme that would help fishers identify and manage the risks associated with rock-based fishing on Auckland's rugged west coast.

A survey of fishers was conducted to better understand fisher demographics, their knowledge of fishing safety knowledge, as well as gain information on their belief and behaviours. Four high-risk rock fishing locations – Muriwai, Piha, Karekare and Whatipu – were selected as sites to pilot the safety campaign and survey rock fishers during the summer months of 2005-06. Four temporary rangers, fluent in Chinese, were employed and trained as rock fishing safety advisers and survey administrators. All rock fishers either on-site or in transit to the site were asked to complete a self-directed, written questionnaire that sought information on fishing practices and beliefs. A very high response rate (91%) was obtained with only 21 refusals during the 10-week data-gathering period resulting in a final database of 250 fishers.

The 2006 survey revealed new and alarming statistics about risky behaviours that predisposed many fishers to harm in the highly dangerous locations in which they fished. Many had limited safety skills and an overly optimistic view of their survival skills in a high-risk fishing environment (Moran, 2008). In terms of survival ability, one third (n = 81; 32%) of fishers estimated that they could not swim 25 m. Most fishers reported limited/no ability to perform CPR (n = 155; 62%). Many took unnecessary risks when fishing from rocks. For example, almost one half (n = 120; 48%) had gone to the water's edge to retrieve a snagged line and one fifth (n = 50; 20%) admitted having consumed alcohol while fishing from rocks. Most fishers agreed that always wearing a life jacket made fishing a lot safer (n = 177; 71%), yet almost three quarters (n = 180; 72%) admitted that they never wore a life jacket.

Fishing safety messages that address the twin dangers of overestimation of ability and underestimation of risk, especially at high-risk fishing locations, were recommended (Moran, 2008). The survey also revealed that the fishing population was culturally and linguistically

diverse, was of recent residency, and were not frequent visitors to the sites where surveyed (Moran, 2006). The implications of this diversity, the transience of the population, and the remoteness of the site of activity were recognized barriers to be overcome in subsequent safety promotion.

The Auckland-based project is unique in that the fishing safety education programme is conducted on-site at high-risk fishing locations with supplementary promotion of safety messages via relevant media outlets of television and radio, newspapers and magazines as well as through retail outlets and community organisations. Static displays of fishing safety (see Illustration 1), written material (see Illustration 2), and verbal advice from the trained field officers (see Illustration 3) were the educational tools used for on-site promotion of fishing safety.

Illustration 1. Static display at Muriwai

Illustration 2. Display Board of safety advice

Illustration 3. Fishing advisors and lifeguards check conditions at Flat Rock, Muriwai

The findings of the initial study were reported back to the participating organisations who decided that the project would be continued for an additional two years (Moran, 2006). At the end of the 3-year period in 2008, the project was extended for another two years and the information obtained from annual surveys conducted from 2006-2010 provided the data for a paper published in 2011 entitled *Rock-based fishers safety promotion: Five years on* (Moran, 2011).

More than a decade of sustained commitment by the collaborating organisations based on an annual survey of rock-based fishers has meant that the Project has been able to

grow organically in response to observed and reported knowledge, attitudes, and behaviours (K-A-B). Initial emphasis on finding out what fishers knew, thought and did about safety has been able to shift safety messages in a reflexive way to influencing behaviours most likely to our fishers at risk of drowning. Some messages (such as the wearing of lifejackets) have been persistent, dominant, worthy of perseverance, and ultimately resulting in life saving behaviour changes. Other messages (such as not going down the rocks to retrieve a snagged line) have appeared more resistant to change (see 2017 published paper entitled *Rock-based fishers safety promotion: A decade on* (Moran, 2017)**.**

This 2019 Report provides an overview of the current safety practices and beliefs of and a timely opportunity to see whether the years of safety promotion have been effective. As in 2018, an Operational Report from SLSN has also been included. The 2019 Report is different from previous reports in that the survey was not conducted across all fishing locations, rather it focussed on some of the more remote areas of Whatipu, Piha, and Bethells Beach and thus provided a snapshot of current practice and beliefs of a small group of fishers fishing in very high risk and remote locations.

2. Purpose and Outcomes of the Project

2.1 Purpose

The purposes of this fourteenth year of the project were threefold:

1) To continue the on-site rock fishing safety education promotion initiated in 2006.
2) To determine the effect of the project on Auckland's west coast fishers' safety practices and beliefs.
3) To make recommendations for future rock fishing safety promotion.

2.2 Outcomes

The specific outcomes of this Report are:

1. Ascertain the effect of on-site rock fishing safety promotion during the summer months of 2018-19,
2. Provide a snapshot of fisher awareness and perceptions of the West Coast Rock-based Fishing Project
3. Provide a snapshot of fisher opinions on the value of safety signage and angel ring flotation devices currently located at high risk west coast fishing locations,
4. Provide a snapshot of fisher:
    a. perception of drowning risk,
    b. safety behaviour and attitudes,
    c. self-reported changes in knowledge, attitudes and behaviours, and
5. Make recommendations and suggest future strategies that enhance fishers' understanding and practice of safety when fishing from rocks on Auckland's west coast.

3. Snapshot of Fisher Perceptions and Practice of Water Safety

3.1 Overview

Pre-season training, run in partnership with Drowning Prevention Auckland and Surf Life Saving Northern, was conducted to familiarise everyone engaged in the project with the terrain and fisher safety priorities. It provided a perspective of the difference that lifejackets can make as well as increasing skills around rocks. A coast tour was also a useful experience allowing for a quick familiarisation with the project area and environment before the surveys actually began. Continuation of this pre-season training for future years is therefore highly recommended.

The sample did not include fishers who used the sites at times outside 'peak' hours (such as night fishing) or fishers who frequented other high-risk west coast locations. Not all sites were surveyed. The sites surveyed included high risk west coast fishing sites Piha, Bethells (including O'Neill Beach, Ihumoana Island, and Raeakiaki Point)), and Whatipu (including Nine Pin Rock and Paratutae) (See Table 1).

Table 1. Survey sites, 2019

Fishing location where interviewed	***n***	***%***
Muriwai	1	4%
Bethells beach (including O'Neill Beach, Ihumoana Island, & Raeakiaki Point)	5	21%
Piha Beach (Camel Rock and Dorsons Ledge, South Piha)	15	62.5%
Whatipu (including Ninepin, Paratutae)	3	12.5%
Total	24	100%

The data gathering took place during December 2018 and February 2019 and included several peak holiday weekdays and weekends. The data gathering took place using a Survey Gizmo e-questionnaire and Ipads, first trialled in 2014.

3.2 Measures

The structured survey (see Appendix 1) was anonymous, designed to be completed on site, and take a maximum of 10 minutes to complete. The questionnaire contained 14 questions, 11 of which had been included in the five previous surveys since 2009. Five questions sought socio-demographic information on gender, length of residency, age, ethnicity, and their previous rock fishing activity.

A question (introduced in 2014) that sought information on what was the primary reason for the fishers fishing on the day they were surveyed. The question included five possible responses: 1) *For fun and enjoyment*, 2) *To feed the family*, 3) *To be with my mates*, and 4) *To have a day out from home/work*. The reason for the inclusion of this question was to determine the accuracy of the claim that many fishers were engaged in fishing primarily for sustenance purposes in a low wage economy.

Two questions on at-risk fishing behaviours and perceptions of drowning risk from the earlier surveys were again included so as to compare fishing safety behaviours and attitudes. The question on behaviours asked fishers to self-report on six behaviours (for example, *when rock fishing, do you wear a lifejacket/buoyancy aid*) using four response categories *never, sometimes, often* and *always*. The question on attitudes consisted of 12 statements and required fishers to state whether they *strongly agreed*, *agreed,* were *unsure, disagreed,* or *strongly disagreed* with the statement. A five-part question asked fishers to estimate whether their knowledge, attitudes and behaviours (as well as that of fishing mates and other fishers) had improved in the intervening year by using three response categories - *agree*, *disagree* or *don't know*.

As was the case in previous surveys from 2009, questions were included that sought information on public rescue equipment that had been installed at high risk sites in the previous years. The first question asked whether fishers had seen the angel rings in high risk locations. The second questions asked fishers to report whether they had read the instructions accompanying each angel ring/throw bag. The third question asked if the fisher thought they could use the equipment in an emergency situation.

3.3 Data analysis

Data from the completed questionnaires were entered into Microsoft Excel 2010 for statistical analysis using SPSS Version 24.0 in Windows. Descriptive statistics such as numbers and percentages were used to describe the baseline characteristics of the population. Frequency tables were generated for all questions and, unless otherwise stated, percentages are expressed in terms of the number of respondents to each survey question within groups.

Because the sample was confined to 4 high risk locations it was decided that trends lines indicating change over the time that the Project has been running (2006-present|) would not be included because of possible bias in the sample. In addition, no tests of statistical significance (eg correlational chi-square testing with previous year's results) would be conducted for the same reason. Because of this methodological limitation, caution should be exercised when interpreting and extrapolating the data from the snapshot survey of this Report.

4. KEY FINDINGS

The results of the 2019 survey are presented in six sections:

4.1 Demographics of Fishers

4.2 Awareness of West Coast Rock-based Fishing Safety Project

4.3 The Installation and Usage of Angel rings

4.4 Fisher Perceptions of Drowning Risk

4.5 Water Safety Behaviours of Fishers

4.6 Changes in Fishers' Knowledge, Attitudes and Behaviours

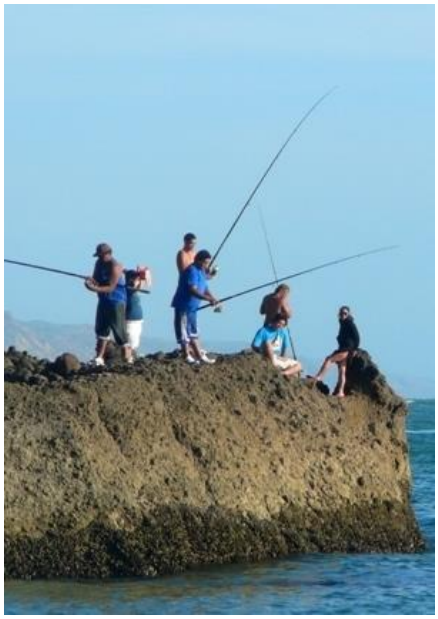


Illustration 4. The extent of the problem –

Whatipu, remote location, not a lifejacket in sight

4.1 DEMOGRAPHICS OF FISHERS

Demographically, the participants (*N* = 24) were exclusively male, predominantly of Asian ethnicity, most were aged 45 years or older (92%; *n* = 22), and most (75%; *n* = 18) had been resident in New Zealand for 10 years or longer (see Table 2).

Table 2. Demographic Characteristics of Fishers, 2019

Demographic Characteristic		*n*	*Valid %*	Total
Gender	Male	24	100%	24 (100%)
	Female	0	0%	
Ethnicity	European	1	4%	24 (100%)
	Asian	22	92%	
	Other	1	4%	
Age Group	20-29 years	1	4%	25 (100%)
	30-44 years	1	4%	
	45-64 years	22	92%	
	65+ years	0	0%	
Length of residency	< 1 year	0	0%	24 (100%)
	1-4 years	0	0%	
	5-9 years	5	21%	
	>10 years	18	75%	
	All my life	1	4%	

Table 3 shows that those who self-identified as of Asian origin (*n* = 23) were predominantly Chinese/Taiwanese (83%; *n* = 19), Korean (13%; *n* = 3), and other Asian ethnicities (4%; *n* = 1). The variation among Asian ethnicities suggests that promoting fisher safety through written language may require multiple translation so user of visual messaging is highly recommended.

Table 3. Self-identified Ethnicity of Asian Fishers, 2019

Asian Ethnicity	***n***	***%***
Chinese/Taiwanese	19	82.6%
Korean	3	13.1%
Indian	0	0.0%
Other Asian (unspecified)	1	4.3%
Total	23	100%

Fishers were asked to describe how often they had fished at the location where they completed the questionnaire (see survey question 8, Appendix 1). Table 4 shows that a small proportion (13%, *n* = 3) reported they had visited the site where surveyed 5 times or less. Cumulatively, almost one third of fishers (29%, *n* = 7) reported that they had visited the site less than 10 times. More than one half of fishers (58%, *n* = 14) had visited the site more than twenty times.

In comparison with the previous years, more fishers were likely to be regular visitors to the site where interviewed. A trend for increased experience of the fishing locations has been evident in the findings of the full surveys completed in recent years (2013-2018). However, the 2019 findings reported above may be a reflection on the specific remoteness of the sites chosen for the 2019 survey. It may suggest that fishers at these sites are more experienced and knowledgeable of the sites than fishers at the more accessible locations such as Flat Rock, Muriwai which, numerically, would be the most popular location for rock-based fishing. Further research is required to determine whether fishers at the more remote locations are more experienced and capable of dealing with the high-risk connotations of isolated fishing spots where help is not readily available should anything go wrong.

Table 4. Frequency at Site where Interviewed, Other Places Fished, and Reasons for Fishing, 2019

How often have you fished at this site?	*n/%*		Cumulative %
First time at site	2	8.3%	8.3%
2-5 times	1	4.2%	12.5%
6-10 times	4	16.7%	29.2%
11-20 times	3	12.5%	41.7%
>20 times	14	58.3%	100.0%
Where else have you fished?			
Other Auckland west coast sites	18	75.0%	
Northland	0	0.0%	
Auckland Harbours (Manukau Harbour)	2	8.3%	
Inner Hauraki Gulf (inc. North Shore, Waiheke etc)	2	8.3%	
Outer Hauraki Gulf (inc. Coromandel, Great Barrier)	0	0.0%	
Other New Zealand sites	1	4.2%	
Nil response	1	4.2%	
What is the main reason for fishing today?			
Fun and enjoyment	24	100%	100%
Feed the family	0	0%	100%
Be with mates	0	0%	100%
Have a day off from work/home	0	0%	100%

Illustration 5. Remote spot but lifejacket on and lifeguard with rescue tube on hand

4.2 AWARENESS OF WEST COAST ROCK-BASED FISHING SAFETY PROJECT

Two thirds (67%, *n* = 16) of fishers surveyed in 2019 reported that they had taken part in previous west coast rock-based fishing safety surveys, a greater proportion than that reported in the previous year (2018, 26%). This proportion is much higher than in previous years but again may be a reflection of the experience of the fishers at the remote sites chosen to conduct the survey in 2019. It may be that the fishers at other locations not surveyed in 2019 may reflect the more transient nature of the Auckland west coast rock-based fishers from year to year. It may also be a reflection on greater fisher motivation to comply with surveyor requests to take part as well as greater familiarity with the surveys.

Table 5 shows that, of the 16 fishers who had taken part in the previous surveys, most (94%; *n* = 15) considered that the campaign had been *highly successful/successful*

Table 5. Participation in, and estimation of success of, the previous projects

Did you take part in the previous rock fishing projects?	***n***	**%**
Yes	16	67%
No	8	33%
Total	24	100.0%
If Yes (*n* = 16), how successful do you think it was?		
Highly successful	3	18.8%
Successful	12	75.0%
Slightly successful	0	0.0%
Don't know	1	6.2%
Total	16	100.0%

Most fishers (79%, *n* = 19) reported that they were aware of the current safety promotion. Table 6 shows that, when those who were aware of the 2019 project were asked how they had found out about the project, fishing safety advisors (84%, *n* = 16) were identified

as the most frequent source of information. In previous years the fishing safety advisors were regularly identified as the main source of safety advice (e.g. 2018, 22%; 2017, 41%). The increase in 2019 may again be a reflection on the surveying of more remote sites. Further consideration of ways of offering onsite safety advice is recommended. The reported lack of reach through traditional channels such as television, magazines, and retail outlets (fishing stores and gas stations), as indicated by the lesser recall of participants in 2019 suggest renewed efforts safety promotion via these previously well used channels.

Table 6. Are you aware of, and how did you find out about the current (2019) project?

Are you aware of the current (2019) project?	***n***	**%**
Yes	19	79.2%
No	5	20.8%
Total	24	100.0%
If Yes (n = 19), how did you find out about the current project?		
Fishing safety advisors	16	84.2%
Newspapers	2	10.5%
Other sources (e.g. lifeguards, internet)	1	5.3%
Total	19	100%

4.3 PUBLIC RESCUE EQUIPMENT (angel rings, throw bags etc.)

Table 7 shows that almost all fishers (92%) had seen angel rings at the Auckland West Coast fishing sites, a greater proportion than in the previous year (2018, 80%).

Table 7. Awareness of the angel rings, 2019

Have you seen the angel rings?	***n***	**%**
Yes	22	91.7%
No	2	8.3%
Have you read the angel ring instructions?		
Yes	9	37.5%
No	15	62.5%
Do you think you could use one in an emergency?		
Yes	15	62.5%
No	9	37.5%

When asked if they had read the associated signage and instructions on how to use the rescue equipment in an emergency, 38% (*n* = 9) of fishers reported that they had read the instructions (2018, 51%). Even though many fishers (63%) reported not having read the instructions, most (63%; *n* = 15) thought that they could use the angel rings in an emergency (2018, 75%).

One third (37%, *n* = 9) reported that they did not think they could use an angel ring in an emergency (2018, 25%). Given the isolation of most of the fishing locations on the west coast of Auckland where the survey was undertaken in 2019, this is a major source of concern since bystander assistance is likely to be critical in the time before lifeguards and/or other emergency services are able to expedite a rescue response.

Note: For further information of location of angel rings and recommended additions to their number, please refer to Appendix 2 - SLSN - Operational Report

4.4 FISHER PERCEPTIONS OF DROWNING RISK

Fishers were asked to respond to a series of 12 statements relating to their perception of the risk of drowning associated with fishing from rocks (see survey question 12, Appendix 1). The question consisted of a 5-point scale that included the categories *strongly agree*, *agree*, *unsure*, *disagree* and *strongly disagree*. For ease of interpretation, the *strongly agree/agree* and *disagree/strongly disagree* responses were aggregated.

Table 8. Fishers' Perceptions of Risk of Drowning, 2019

Do you think that-	Strongly agree/ Agree		Unsure		Strongly disagree/ Disagree	
	n	*%*	*n*	*%*	*n*	*%*
1. Getting swept off the rocks is likely to result in my drowning	14	58.3	9	37.5	1	4.2
2. Rock fishing is no more risky than other water activities	5	20.8	0	0.0	19	79.2
3. Drowning is a constant threat to my life when rock fishing	24	100.0	0	0.0	0	0.0
4. I am not concerned about the risks of rock fishing	4	16.7	0	0.0	20	83.3
5. Others rock fishers are at greater risk of drowning than me	4	16.7	10	41.7	10	41.7
6. I am a strong swimmer compared with most other people	4	16.7	6	25.0	14	58.3
7. I avoid fishing in bad conditions to reduce drowning risk	24	100.0	0	0.0	0	0.0
8. Always wearing a life jacket makes fishing a lot safer	24	100.0	0	0.0	0	0.0
9. Turning my back to the waves when rock fishing is very dangerous	24	100.0	0	0.0	0	0.0
10. My local knowledge of this site means I'm unlikely to get caught out	19	79.2	3	12.5	2	8.3
11. My experience of the sea will keep me safe when rock fishing	23	95.8	1	4.2	0	0.0
12. My swimming ability means I can get myself out of trouble	4	16.7	5	20.8	15	62.5

Statements 1-3 (Question 12) in Table 8 relate to fishers' perceptions of **the severity of the risk of drowning** when fishing from rocks (see Appendix 1 – survey questionnaire). In 2019, most fishers (58%) agreed that getting swept off rocks was likely to result in drowning, and all

(100%) considered drowning a constant risk when fishing from rocks. One fifth (21%) agreed that fishing from rocks was no more risky than other water activities but 79% disagreed with the statement. In comparison with the findings of the previous year, fishers in 2019 appeared to have a heightened perception of the severity of the risk of drowning (see Table 9).

Table 9. Comparison of fisher beliefs in the severity of the risk of drowning, 2018 and 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
1. Getting swept off the rocks is likely to result in my drowning	2019	58%	38%	4%
	2018	*63%*	*16%*	*21%*
2. Rock fishing is no more risky than other water activities	2019	21%	0%	79%
	2018	*62%*	*16%*	*22%*
3. Drowning is a constant threat to my life when rock fishing	2019	100%	0%	0%
	2018	*57%*	*17%*	*26%*

The second measure of fishers' perception of the appraisal of drowning risk – personal **vulnerability to the risk** was determined from statements 4-6 in Question12 and reported in Table 10.

Table 10. Comparison of fisher beliefs in vulnerability to the risk of drowning, 2018 and 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
4. I am not concerned about the risks of rock fishing	2019	17%	0%	83%
	2018	*26%*	*16%*	*58%*
5. Others rock fishers are at greater risk of drowning than me	2019	17%	42%	42%
	2018	*53%*	*29%*	*18%*
6. I am a strong swimmer compared with most other people	2019	17%	25%	58%
	2018	*51%*	*16%*	*33%*

Most fishers (83%) disagreed that they were not concerned about the risk of drowning (2018, 58%), and fewer (17%) thought that other fishers were more vulnerable to the risk of drowning than themselves (2018, 53%). Unlike previous years, fewer fishers (17%) considered that they were strong swimmers compared with other people (2018, 51%). More than half (58%) of the fishers in 2019 thought they were poor swimmers in comparison with others (2018, 33%).

Responses to statements 7-9 (Question 12) related to fisher perceptions of the **efficacy of preventive action** in reducing drowning risk when fishing from rocks (see Appendix 1 – survey questionnaire). All fishers taking part in the 2019 survey responded positively to all three statements of the efficacy of preventive actions to reduce drowning risk (Table 11). Fishers in 2019 avoided fishing in bad weather (100%), agreed that wearing a lifejacket when fishing from rocks made it a lot safer (100%) and avoided turning their back to the waves (100%). Comparable figures for the previous year were 88%, 84%, and 87% respectively.

Table 11. Comparison of fisher beliefs in efficacy of preventive actions, 2018 and 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
7. I avoid fishing in bad conditions to reduce drowning risk	2019	100%	0%	0%
	2018	*88%*	*4%*	*8%*
8. Always wearing a lifejacket makes fishing a lot safer	2019	100%	0%	0%
	2018	*84%*	*9%*	*7%*
9. Turning my back to the waves when fishing is very dangerous	2019	100%	0%	0%
	2018	87%	6%	7%

Responses to statements 10-12 (Question 12) related to fisher perceptions of the **self-efficacy of their preventive behaviours** in reducing drowning risk when fishing from rocks (see Appendix 8.1 – survey questionnaire). It describes their confidence in their capacity to counter their risk of drowning. In previous surveys, fishers have been confident of their ability to keep themselves safe - their self-efficacy. The 2019 results suggest that most participants considered themselves capable of looking after themselves with most believing that their experience of the sea (96%) and their local knowledge (79%) will keep them safe. However, few fishers (17%) thought that their swimming ability would get them out of trouble.

Table 12 shows a comparison of fishers' beliefs from the 2019 and 2018 surveys about their ability to cope with the risk associated with fishing from rocks on Auckland's west coast. All three statements regarding their personal experience of the sea, their local knowledge of the site, and their confidence in their swimming competence suggest that participants in the 2019 survey were more confident in their experience of the sea and their local knowledge of the site than previous participants. Particularly noticeable is the change in beliefs about the protective capacity of their swimming ability, with far fewer confident of their swimming ability in the most recent survey (2019, 17%; 2018, 61%). It may be that the fishers interviewed at the more remote sites in 2019 fished in more extreme risk locations so were more realistic about their incapacity to survive a water incident thereby making them more attentive to risk awareness and risk management.

Table 12. Comparison of fisher self-efficacy to cope with risk, 2018 and 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
10. My experience of the sea will keep me safe when fishing	2019	96%	4%	0%
	2018	*78%*	*9%*	*13%*
11. My local knowledge of this site means I'm unlikely to get caught out	2019	79%	13%	8%
	2018	*65%*	*16%*	*19%*
12. My swimming ability means I can get myself out of trouble	2019	17%	21%	63%
	2018	*61%*	*19%*	*20%*

4.5 WATER SAFETY BEHAVIOURS OF FISHERS

Fishers were asked to report their previous water safety behaviours (see survey question 12, Appendix 1) using a four-point frequency scale including *never, sometimes, often* and *always* in order to describe whether they had performed at-risk behaviours when fishing from rocks. As in previous surveys, the latter two responses were aggregated and are reported in the tables and text as *often/always* (see Table 13).

Table 13. Fishers' Self-reported Water Safety Behaviours, 2019

When rock fishing, do you -	Never		Sometimes		Often/Always	
	n	*%*	*n*	*%*	*n*	*%*
1. Wear a lifejacket or other flotation device	5	21%	7	29%	12	50%
2. Check weather/water conditions first	1	4%	2	8%	21	88%
3. Drink alcohol when you are fishing	23	96%	1	4%	0	0%
4. Wear gumboots or waders	11	46%	12	50%	1	4%
5. Turn your back to the sea when fishing	1	4%	23	96%	0	0%
6. Take a cell phone in case of emergencies	2	8%	0	0%	22	92%
7. Go down rocks to retrieve snagged line	15	63%	9	38	0	0%

Table 13 shows more positive safety behaviours among the 2019 cohort of rock-based fishers than the previous year. On the positive side, almost all fishers *often/always* checking the weather and water conditions before going fishing (88%), taking a cell phone in case of emergencies (92%) and *never* drinking alcohol when fishing (96%). Corresponding proportions in the previous year 2018 were 88%, 87%, and 87% respectively. Perhaps the most important difference in safety behaviour was in the reported wearing of lifejackets with considerably

more fishers in 2019 reporting *always/often* wearing a lifejacket (2019, 50%; 2018, 21%) and fewer fishers reporting *never* wearing lifejacket (2019, 21%; 2018, 30%). A majority of fishers also reported *never* going down the rocks to retrieve a snagged line (63%) in both 2018 and 2019. On the negative side, fewer fishers reported that they had turned their backs to the sea when fishing (2019, 4%; 2018, 56%).

4.6 CHANGES IN FISHERS' KNOWLEDGE, ATTITUDES, AND BEHAVIOURS

Fishers were asked to assess whether their fishing safety knowledge, attitudes, and behaviour and that of their mates and other fishers had improved (see Question 13, Appendix 1).

Table 14. Comparison of Self-Reported Changes in Fishers' Safety Knowledge, Attitudes and Behaviours, 2018 and 2019

Do you think that -	Year	Agree		Disagree		Don't know		Total	
		n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Your rock fishing safety knowledge has improved?	2019	23	95.8	1	4.2	0	0%	24	100.0
	2018	*105*	*82.0*	*4*	*3.1*	*19*	*14.8*	*128*	*100.0*
Your rock fishing safety attitude has improved?	2019	23	95.8	1	4.2	0	0%	24	100.0
	2018	*108*	*84.4*	*5*	*3.9*	*15*	*11.7*	*128*	*100.0*
Your rock fishing safety behaviour has improved?	2019	22	91.7	1	4.2	2	8.3	24	100.0
	2018	*111*	*86.7*	*5*	*3.9*	*12*	*9.4*	*128*	*100.0*
Your mates' rock fishing behaviour has improved?	2019	15	62.5	1	4.2	8	33.3	24	100.0
	2018	*78*	*60.9*	*7*	*5.5*	*43*	*33.6*	*128*	*100.0*
Other rock fishers' behaviour has improved?	2019	18	75.0	1	4.2	5	20.8	24	100.0
	2018	*61*	*47.7*	*15*	*11.7*	*52*	*40.6*	*128*	*100.0*

Table 14 shows that almost all fishers (96%) considered that their safety knowledge had improved in recent years, a small proportion (4%) thought that it had not improved. Most

fishers (96%) thought that their attitudes towards fisher safety had improved and most (92%) thought that their safety behaviours had improved.

Comparative figures for the previous year suggest that fishers' perception of their knowledge, attitudes, and behaviours (K-A-B) had improved to some extent with: more thinking their knowledge had improved (2019, 96%; 2017, 82%), more believing their attitudes towards safety had improved (2019, 96% 2018, 84%) and more believing that their safety behaviour had improved (2019, 92%; 2018, 87%).

To determine whether participants in the survey had seen an overall improvement in safety behaviour among the fishing community, fishers were asked to indicate whether they thought the safety behaviour of friends or other rock fishers had improved. Table 15 shows that almost two thirds of fishers (63%) thought that the safety behaviour of their mates had improved (2018, 61%), one third (33%) thought their mates fishing behaviour had not improved (2018, 33%). When asked about other rock-based fishers, three quarters of fishers (75%) in the 2019 survey thought they had observed better safety behaviours of other fishers, a greater proportion than that reported in the previous year (2018, 48%).

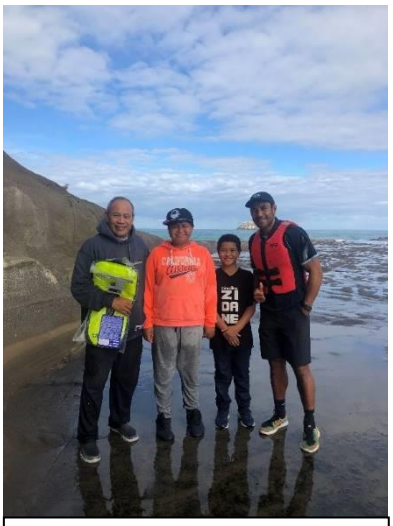
5 CONCLUSIONS

On the basis of the above findings, several key points are worthy of concluding emphasis. They include:

- The small sample of the rock-based fisher population at 4 remote high risk sites reflects previous population findings of predominantly males of Asian ethnicity. In 2019, most fishers were older than 45 years of age and more had lived in New Zealand for 10 years+ compared to previous surveys. This may have implications on the adoption of more risk averse behaviours characteristic of an older population.
- In 2019, the fishers (in the remote, high risk locations) reported greater familiarity with the location at which they fished (greater frequency of visits). They also reported greater use of lifejackets (essential in remote areas where rescue by trained personnel is problematic), however, some self-reported risky behaviours (such as going down the rocks to retrieve a snagged line and the use of inappropriate footwear) still prevailed.
- Direct comparisons with the results of previous surveys (that covered most West Coast locations) has methodological limitations but does give some insight into the knowledge, attitudes and behaviours of fishers using the high risk remote locations used in 2019. It would appear that these fishers have a realistic awareness of the risks associated with their fishing, have a better understanding of the need for lifejackets when rock-based fishing, and a greater level of self-reported knowledge of the sea and local conditions.
- Fishers in the 2019 survey appeared to have a greater awareness of the West Coast Fishing Safety Project than that reported in previous years. It might be that fishers in remote sites are more experienced and committed to their fishing pursuit than those at other more easily accessed sites (such as Flat Rock, Muriwai) and this may give them a greater capacity to cope with the risk of drowning at remote sites. Whether this is sufficient to mitigate the greater risk at these sites require further investigation

6. SUMMARY OF KEY SAFETY PROMOTIONS, DPA - 2019

- Two days Coastal Awareness training and half a day Coastal tour training for Rock Fishing Advisors
- Rock Fishing Launch with partners Surf Lifesaving Northern Region and Auckland Council
- 4 x rock fishing seminars/presentations with Birkenhead College year 10 students, Alternative Education North Shore, Aktive Asian Harbour Sport and Marist Rugby League under 16 and 17's.
- 20+ presentations to groups on land-based fishing safety (part of our water safety presentations)
- Net Fishing added into our e-learning resource
- Land Based Fishing safety promoted at Hutchwilco Boat Show and other events.
- 2 x 'On the rocks' lifejacket giveaway sessions – Both at Muriwai Beach promoting the wearing of lifejackets when rock fishing
- 2 x practical fishing workshops with Aktive Asian and Birkenhead College
- Promotion of rock fishing safety on Boaties website and Fishing Outdoors Newspaper

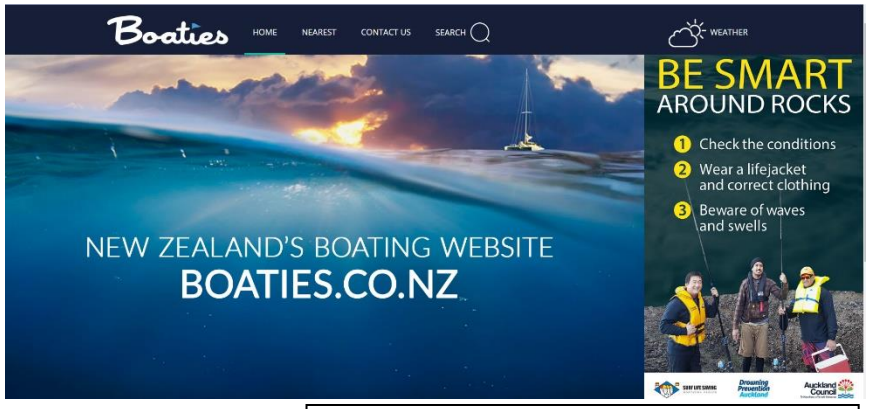


Lifejacket Promotion on the rocks – Harry Aonga at Muriwai Beach with Rev Lui.Tupa'i and his children the winner of a free lifejacket

Birkenhead College Year 10 students land based fishing at Cornwallis Wharf

Aktive Asian group crab fishing workshop at Urititi Beach

Fishing and Outdoors Newspaper April 2019 – Rock Fishing Safety message



Boaties Website – Rock Fishing safety message

7. RECOMMENDATIONS

On the basis of the findings, it is recommended that:

Auckland Council:

- Retain the services of the safety advisory for a 2019/20 summer campaign
- Continue to provide regional leadership and support future fishing safety promotion, including the installation of angel rings and safety signage at high risk sites.
- Increase provision of public rescue equipment (PRE) in the form of angel rings and throw ropes at 3 popular but remote locations in order of priority:

South Side of the Ninepin Is at Whatipu

"The Ninepin does already have an angel ring on the north side. This is ideal if anyone gets into trouble accessing the Ninepin when the tide is in. However, it is too far away to be of any use to anyone that is actually fishing on the south side. After talking to fishermen, they all said that if someone got in trouble while fishing they wouldn't even bother about getting the ring as its too far away. The south side currents are incredibly strong so every second counts in how quickly they can get a flotation device or rope. An angel ring with an attached throw rope would be essential. The site is one of the most popular fishing spots on Auckland's west coast and is known for some night fishing expeditions."

East Side of Paratutae Is. at Whatipu

"This is the most popular spot for fishing on Auckland's West Coast due to it being sheltered from broken waves and the prevailing wind. However, due to it being just within the Manukau Harbour mouth it experiences gyres, strong currents and rip tides as well as surging waves. Due to the high population of fishermen in this spot an angel ring could very well come in handy."

Raeakiaki Point Bethells Beach

"This point is a relatively common fishing spot which is subject to tidal access. Being at the far south end of Bethells Beach, an area with poor reception, response times can be long especially if there is no patrol. An angel ring would greatly benefit anyone washed into the sea, keeping them afloat till help arrives."
(Julian, 2019)

(Refer SLSNR comment in Appendix 2 - SLSNorthern Operational Report)

Drowning Prevention Auckland, Surf Life Saving Northern Region and other safety organisations:

- Increase promotion of lifejacket use
- Commit resources and personnel to the ongoing work collaboratively with all partners to promote best practice for West Coast fishing safety education beyond 2019 via:
    - *"Specifically educate the rock fishers on the dangers involved with fishing on the rocks near surging waters*
    - *Survey the population involved with rock fishing to determine nature and extent of fishing practice*
    - *Continued used of an SLSNR RWC partnered with an Advisor to transport and support them along the coast*
    - *Using a purpose fitted drone for a land-based Advisor to increase their efficiency and safety on the job*
    - *Continue to explore the use of technology in Rock Fishing safety education.*

- *Review and refine the Survey*
- *Continued use of a Tracking Device and Report Form*
- *Coastal Awareness Course training for both Rock Fishing Advisors and RWC Rock Fishing Operator*
- *Increase support to fishermen who want to improve their safety by providing better access to an ideal PFD for West Coast Rock Fishing, possibly through sponsorship and subsidies.*
- *Continue to work with partners to develop the program*
- *Work with Council on a presentation to secure funding for the program's future*
- *Employ: 1 x Rock Fishing Advisor with 1x RWC Operator on RWC (Saturday-Sunday x 8 Hours per day x 5 Weeks) 2 x Rock Fishing Advisor with Drone (Monday-Friday x 8 Hours per day x 12 Weeks)"*

(Julian, 2019)

(Refer SLSN comment in Appendix 2 - SLSNorthern Operational Report)

Recreational fishers, fishing organisations, lifejacket retailers and manufacturers, fishing outlets:

- Adopt and endorse the fishing safety messages promoted by the 2019 West Coast Rock-based Fisher Safety Project.
- Encourage others in the rock fishing community to adopt safe practices - **especially the wearing of lifejackets when fishing at Auckland's high-risk west coast locations**.
- Support the work of frontline fishing advisors and lifeguards in their efforts to make rock fishing a safe and happy experience.
- Advocate for the promotion of rock fishing safety with community groups especially those that are identified high-risk including new migrants, Pasifika and Asian peoples.

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Appendices

Appendix 1 Survey Questionnaire

Appendix 2 SLSN Operational Report

Rock-Fishing in Auckland: 2018

Date: _____ **Time:** _____ **Location:** _____

1. a) Did you take part in the Auckland west coast rock-fishing project in the past?

☐ Yes ☐ No

If Yes, do you think the project is:

☐ Highly successful
☐ Successful
☐ Slightly successful
☐ Not successful
☐ Don't know

2. Are you aware of the current rock fishing safety promotion in Auckland?

☐ Yes ☐ No

If **Yes**, how do you know about it?

☐ Radio
☐ Television
☐ Rock fishing advisors
☐ Newspapers
☐ Magazines
☐ Retail outlets (eg fishing shops, gas stations)
☐ Other _____

3. Are you?

☐ Male ☐ Female

4. How old are you?

☐ 15-19 years
☐ 20-29 years
☐ 30-44 years
☐ 45-64 years
☐ 65+years

5. Where else have you fished in the last year?

_____

6. How would you best describe yourself?

☐ European New Zealander
☐ Māori
☐ Pasifika
☐ Chinese / Taiwanese
☐ Korean
☐ Indian
☐ Other (e.g. African, French, Spanish etc.)

_____

_____

7. How long have you lived in New Zealand?

☐ Less than 1 year
☐ Between 1-4 years
☐ Between 5-9 years
☐ More than 10 years
☐ All my life

8. How often have you fished at <u>this location</u>?

☐ This my first time
☐ Between 2-5 times
☐ Between 6-10 times
☐ Between 11-20 times
☐ More than 20 times

9. Tick ONE of the list below that best describes your reason for fishing today:

☐ For fun and enjoyment
☐ To feed the family
☐ To be with my mates
☐ To have a day out from home / work

10 Can you suggest other dangerous sites without angel rings on the west coast

_____

11. 1 - Have you seen angel rings on the West Coast? ☐ Yes ☐ No

2 – Have you read instructions on how to use them? ☐ Yes ☐ No

3 – Do you think you could use one in an emergency? ☐ Yes ☐ No

4 – Do you have any suggestions on how to make them more effective? _____

_____

12. Do you think that-	**Strongly Agree**	**Agree**	**Unsure**	**Disagree**	**Strongly Disagree**
1 - Getting swept off the rocks while fishing is likely to result in my drowning	☐	☐	☐	☐	☐
2 - Rock fishing is no more risky than other water activities	☐	☐	☐	☐	☐
3 –Drowning is a constant threat to my life when rock fishing	☐	☐	☐	☐	☐
4 - I am not concerned about the risks of rock fishing	☐	☐	☐	☐	☐
5 - Other fishers are at greater risk of drowning than me	☐	☐	☐	☐	☐
6 - I am a strong swimmer compared with most other people	☐	☐	☐	☐	☐
7 – I avoid fishing in bad conditions to reduce the risk of drowning	☐	☐	☐	☐	☐
8 - Always wearing a lifejacket makes rock fishing a lot safer	☐	☐	☐	☐	☐
9 - Turning my back to the waves when rock-fishing is very dangerous	☐	☐	☐	☐	☐
10 - My local knowledge of this site means I'm unlikely to get caught out	☐	☐	☐	☐	☐
11 - My experience of the sea will keep me safe when rock fishing	☐	☐	☐	☐	☐
12 - My swimming ability means I can get myself out of trouble	☐	☐	☐	☐	☐

13. When rock fishing, do you -	**Never**	**Sometimes**	**Often**	**Always**
1 Wear a lifejacket/buoyancy aid	☐	☐	☐	☐
2 Check weather forecast beforehand	☐	☐	☐	☐
3 Drink alcohol when fishing	☐	☐	☐	☐
4 Wear gumboots or waders	☐	☐	☐	☐
5 Turn your back on the sea	☐	☐	☐	☐
6 Take a cell phone in case of emergencies	☐	☐	☐	☐
7 Go down the rocks to retrieve snagged line	☐	☐	☐	☐

14. As a result of the rock fishing project, do you believe that:	**Agree**	**Disagree**	**Don't know**
1 My knowledge of rock fishing safety has improved	☐	☐	☐
2 My practice of rock fishing safety has improved	☐	☐	☐
3 My attitudes towards rock fishing safety have improved	☐	☐	☐
4 My rock fishing mates seem more safety conscious	☐	☐	☐
5 Other rock fishers around me seem more safety conscious	☐	☐	☐

Appendix 2

Rock Fishing Safety Report

2018 / 2019

This report has been constructed with the intention of informing members and stakeholders about the Surf Lifesaving Northern Region involvement in the rock fishing safety project over the 2018/2019 summer season.

For more in depth information or statistics please contact;

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The Season in Brief

This season SLSNR employed Sam Turbott and Liam Parkin as the Rock Fishing Safety Advisor. This was to continue the important work that Surf Life Saving Northern Region, Auckland City Council and Drowning Prevention Auckland is doing in this space to educate and reduce the number of preventable deaths in coastal fishing. The project area covered nine different beaches and 21 key Rock Fishing locations. Overall the aim to have a presence amongst those who fish off the rocks on Auckland's West Coast was achieved. The population of rock fishers is a diverse with a wide range of cultural ethnicities, but a very male dominated water activity. It was found that many would listen and be interested in advice except a few who simply didn't want to hear it or were fishing for food so had little time. Many knew a decent proportion of the advice given, they just didn't act on it due to cost or lack of appreciation of how badly things could go wrong. The rock fishers who were the safest were those who had experienced or seen fatalities or dangerous events occurring on the rocks.

Pre-season Training

The pre-season training, run in partnership with Drowning Prevention Auckland was very beneficial. It provided a perspective of the difference that lifejackets can make as well as increasing skills around rocks. The coast tour was also a useful experience allowing for a quick familiarisation with the project area and environment before the surveys actually began. This training was also repeated by returning members which they described as being a great refresher on the skills they will used daily. Continuation of this pre-season training for future years is therefore highly recommended.

RWC

This season saw the use of an SLSNR RWC and Operator, based at Piha, to transport and support the Advisor to the fishing locations. Unfortunately, due to the high demand for this lifesaving piece of equipment and the limited number of both operators and crafts the use of this craft was heavily limited this season.

On the occasions where the RWC was used it once again proved it was highly effective at increasing efficiency by reducing the normal hour-long drive between beaches to ten minutes and allowing for safer access to the specific fishing spots. It was also comforting for the Advisor knowing additional support was there if something was to go wrong. It caught the attention of rock fishers who seemed to be more approachable to an Advisor getting off an RWC that had come from further along the coast.

The RWC was highly effective during busy days, when there were a lot of rock fishers out. However, it was a lot of effort for less return on quieter fishing day. Due to conditions and in the interest of safety the RWC was not able to operate on a number of days where the surf was too big. Overall the RWC was a highly effective tool when in use and continuation of its use within the project is recommended, with use concentrated during busy periods.

Tracking system & daily report form

Off the back of last season's trail into the use of the satellite tracking system tracplus SLSNR explored this use of this system for this season. Although it was noted that the benefits to safety are unquestionable the system is simply too expensive to be used in this capacity. If we decided that budget would be better invested in a second Rock Fishing advisor and have the advisors work in pairs. This system ensured safety while allowing the Rock Fishing advisors to spend more time with Rock Fishermen. It is however clear that a tracking system is extremely valuable to safety and we should continue to explore this area.

UAV Trial

The use of UAV's (Drones) is on the increase, especially for lifesaving organisations. Drones could be used as part of the project to improve worker safety and cut down wasted time reaching places where rock fishers were not fishing that day but could not be seen from the coastal path. A UAV was therefore fitted with an infrared camera and flown from the coastal path out to popular fishing spots to see if it could spot rock fishers using the thermal imaging technology.

A trail conducted over the 2017/18 season demonstrated that having an advisor with a drone was beneficial to the program in terms of increasing safety and efficiency. Feedback from the Advisor is that it may be more efficient than having an additional RWC, although both the use of an RWC and UAV are limited by adverse weather.

Since the trail in early 2018 Drone technology has developed rapidly. Consumer level Drones have now developed to include thermal imaging technology and speakers capable of 120 decibels.

In order to fully implement a UAV into the rock fishing project in future there is a requirement to;

1. Give basic training of the proposed pilot, including piloting skills, hardware and software knowledge
2. Carry out a survey of the intended locations of operations, in various weather conditions, with UAS to determine areas of high turbulence that will affect flight path design
3. Establishing appropriate flight plans for each location and flight testing those paths.
4. Select and test an appropriate aircraft that will be required to;

- Be operated by a person with limited piloting skills.
- Be easy to carry and store. The system needs to fit into a back pack so that the SLSNR Rock Fishing advisor can transport it on a jet ski or carry it to a remote launch location.
- Operate over water, sand and in various wind conditions.
- Have a level of collision avoidance capability and be able to return to its launch point autonomously should control links be compromised.
- Have both optical and Infrared thermal imaging

Angel rings

Whilst visiting Rock Fishers, the Advisors constantly checked the condition of Angel Rings (public rescue equipment) conducting a survey of their condition. If any were missing they were replaced. A number of requests by rock fishers were made for additional angel rings to be put in place, most notably in the Whatipu area which sees the largest number of fishermen but only has one angel ring in the vicinity.

Recommended Locations for Additional Angel Rings (From Highest Priority);

4. *South Side of the Ninepin Is at Whatipu*
   The Ninepin does already have an angel ring on the north side. This is ideal if anyone gets into trouble accessing the Ninepin when the tide is in. However, it is too far away to be of any use to anyone that is actually fishing on the south side. After talking to fishermen, they all said that if someone got in trouble while fishing they wouldn't even bother about getting the ring as its too far away. The south side currents are incredibly strong so every second counts in how quickly they can get a floatation device or rope. An angel ring with an attached throw rope would be essential. The site is one of the most popular fishing spots on Auckland's west coast and is known for some night fishing expeditions.

5. *East Side of Paratutae Is. at Whatipu*
   This is the most popular spot for fishing on Auckland's West Coast due to it being sheltered from broken waves and the prevailing wind. However, due to it being just within the Manukau Harbour mouth it experiences gyres, strong currents and rip tides as well as surging waves. Due to the high population of fishermen in this spot an angel ring could very well come in handy.

6. *Raeakiaki Point Bethells Beach*
   This point is a relatively common fishing spot which is subject to tidal access. Being at the far south end of Bethells Beach, an area with poor reception, response times can be long especially if there is no patrol. An angel ring would greatly benefit anyone washed into the sea, keeping them afloat till help arrives.

Future Plans & Proposals

The new SLSNR Strategic Plan specifically identifies the need to "Target community water safety education funding primarily towards at risk demographics". The Rock Fishing project satisfies this strategic aim and SLSNR's continued involvement with Drowning Prevention Auckland is assured. The following is proposed for the 2019/20 season;

- Specifically educate the rock fishers on the dangers involved with fishing on the rocks near surging waters
- Provide better support to Rock Fishers who want to improve their safety
- Survey the population involved with rock fishing to identify:

⇨ WHAT percentage of drownings are of rock fishers
⇨ WHERE they are fishing

- ⇨ WHO is fishing
- ⇨ HOW MANY are fishing
- Continued used of an SLSNR RWC partnered with an Advisor to transport and support them along the coast
- Using a purpose fitted drone for a land-based Advisor to increase their efficiency and safety on the job
- Continue to explore the use of technology in Rock Fishing safety education.
- Review and Update the Survey to have a more educational and to the point approach
- Continued use of a Tracking Device and Report Form
- Coastal Awareness Course training for both Rock Fishing Advisors and RWC Rock Fishing Operator
- Increase support to fishermen who want to improve their safety by providing better access to an ideal PFD for West Coast Rock Fishing, possibly through sponsorship and subsidies.
- Continue to work with partners to develop the program
  - Work with Council on a presentation to securer funding for the program's future
- Employ;
  - 1 x Rock Fishing Advisor with 1x RWC Operator on RWC (Saturday-Sunday x 8 Hours per day x 5 Weeks)
  - 2 x Rock Fishing Advisor equipped with Drone (Monday-Friday x 8 Hours per day x 12 Weeks)

Financials

Detailed Expenses 2018-2019	2018/19 $ Budget	2018/19 $ Actual
REVENUE		
Grant and Sponsorship Funding	38,100.00	38,100.00
TOTAL REVENUE	**38,100.00**	**38,100.00**
COST OF GOODS SOLD		
Rockfishing Supervisor(s)	11,200.00	18,715.60
Mileage		1,445.90
RWC(s)	5,000.00	643.26
Training	3,900.00	2,250.00
Promotion	2,000.00	-
Uniform & Equipment	8,000.00	2,322.13
Administration	8,000.00	8,000.00
TOTAL COST OF DELIVERY	**38,100.00**	**33,376.89**
SURPLUS / DEFICIT	**-**	**4,723.11**