

West Coast Rock-based Fisher Safety Project 2021

**Drowning
Prevention
Auckland**



SURF LIFE SAVING
NORTHERN REGION

**Auckland
Council**
Te Kaunihera o Tāmaki Makaurau



Preface and Acknowledgements

This report is an evaluation of the 2021 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 16th 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 was again coordinated by personnel from three regional organisations Drowning Prevention Auckland (DPA), Surf Life Saving Northern Region (SLSNR), and Auckland Council (AC). Key people involved in the promotion of fisher safety from Drowning Prevention Auckland were Harry Aonga, James Lea, Madison Chang, Ieuan Leigh (rock fishing advisor) and Leilani Fuemana. From Surf Life Saving Northern, key contributors included Alan Gibson and Ari Peach. Auckland Council park ranger Stuart Leighton and his staff of park rangers were actively involved in all aspects of leadership and delivery of the programme.

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<https://www.dpanz.org.nz/research/rock-fishing/>

Executive Summary

Overview

Rock-based fishing (a form of land-based fishing) is one of the deadliest recreational pursuits in New Zealand. A 10 year review conducted by Surf Lifesaving New Zealand from 2010-2020 reported an annual average mortality rate of 3 fatal drowning incidents per annum with 31 fatal incidents (National Beach and Coastal Safety Report 2020, SLSNZ, 2021). Of these, most were male (90%) and the key demographic group were 25-64 year-olds of Asian ethnicity. The Auckland and Waikato regions each accounted for 26% ($n = 8$) of incidents, 22% ($n = 7$) for the South Island, and 26% ($n = 4$) for the rest of the North Island. As was the case nationally, for the Auckland region from 2016-2020, most victims were male (75%) of Asian ethnicity (88%) and none were wearing buoyancy aids at the time of the incident (Drownbase, WSNZ).

The 2020-21 season was atypical of the rock-based fishing season previously reported because of the occurrence of the pandemic COVID-19 in March 2020. A level 4 lockdown, imposed on the Auckland region on March 26th 2020, meant that fishers were not able to travel to the west coast and all high-risk aquatic recreation that may require rescue were forbidden. As a consequence of work-from-home rules, all public face-to-face fishing safety promotion via the collaborating organisations was cancelled. A further outbreak of cases in August-October 2020 also curtailed face-to-face safety promotions. Online learning via the DPA website was still operational throughout the lockdown phases.

1. Background

This is the sixteenth year of the *West Coast Rock-based Fisher Safety Project*, a collaborative intervention by the Auckland Council, Drowning Prevention Auckland (DPA) (formerly 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. Aims

The aims of this sixteenth 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 2020-21 season,
- 3) To make recommendations for future rock fishing safety promotion based on the information obtained in the survey conducted during the 2020-21 season.

3. Methods

A cross sectional study of fishers at high-risk locations on Auckland's west coast was undertaken during the summer safety campaign between December 2020 and March 2021. A total sample of 139

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 predominantly male (94%) and most (68%) were aged 30-64 years of age.
- The respondents were primarily Asian peoples (40%), comprised of Filipino (40%), Korean (20%) and Chinese (18%) descent.
- Most (71%) had lived in New Zealand for more than 10 years, 16% had lived in New Zealand for less than 4 years, 13% between 5-9 years
- Familiarity with the site was slightly better than in previous years, with more than one third (37%) having visited the site where interviewed >20 times.
- The reason most fishers gave for fishing on the day of interview was fun and enjoyment (71%), 19% to feed the family, 9% to have a day out from work/home

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

- One quarter (24%) of respondents reported that they were aware of previous west coast fisher safety projects (2020, 67%).
- Of these, most fishers (91%) thought that the campaign had been successful, 58% thought it very successful.
- One third of fishers (34%) were aware of the current 2021 Project (2020, 61%).
- Of these, the fishing advisors (46%) and media (35%) were cited as fishers' source of information.

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

- Most fishers (81%) reported seeing? on-site angel rings where they fished (2020, 63%)
- Most fishers (56%) had read the instructions on how to use the angel rings (2020, 37%).
- Most fishers (89%) thought they could use the angel rings in an emergency (2020, 90%).
- One quarter (24%) had used, or seen one used in an emergency (2020, 8%).

4.4. Perceptions of Drowning Risk

- Most fishers (71%) agreed that getting swept off rocks was likely to result in their drowning (2020, 30% agreed).
- Almost half of fishers (47%) agreed that drowning was a constant threat when fishing from rocks on the west coast of Auckland (2020, 56% agreed).
- Two thirds (66%) agreed that other fishers were at greater risk than themselves and thought they were strong swimmers (69%) compared with others (2020, 41% and 40% respectively).
- Most fishers (86%) agreed that wearing a lifejacket made rock-based fishing safer (2020, 67% agreed).

- Almost all fishers (96%) avoided fishing in bad weather (2020, 90% agreed).
- Almost all fishers (94%) thought that turning their backs to the sea was very dangerous (2020, 95% agreed).
- Many fishers (81%) agreed that their swimming proficiency would get them out of trouble (2020, 36% agreed).
- Most fishers (74%) thought that their local knowledge of the site would keep them out of trouble (2020, 43% agreed).
- Most fishers (85%) thought that their experience of the sea would keep them safe when fishing from rocks (2020, 57% agreed).

4.5. Water Safety Behaviours of Fishers

- 40% reported *often/always* wearing a lifejacket/buoyancy aid (2020, 38%).
- One third of fishers (34%) reported *never* wearing any lifejacket/buoyancy aid (2020, 20%).
- Most fishers (80%) reported *never* consuming alcohol when fishing (2020, 96%).
- Many fishers (45%) reported *sometimes/often* wearing gumboots/waders (2020, 58%),
- Many (58%) reported *sometimes* going down rocks to retrieve snagged lines (2020, 71%)

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

- Almost all fishers (93%) considered that their safety knowledge had improved in the past year (2020, 65% agreed).
- Almost all fishers (92%) considered that their safety attitudes had improved (2020, 74% agreed).
- Almost all fishers (96%) thought that their safety behaviour when fishing had improved (2020, 66% agreed).
- Most fishers (89%) thought that the safety behaviour of their mates had improved (2020, 58% agreed).
- Most fishers (86%) considered that the safety behaviour of other fishers had improved (2020, 62% agreed).

TAKE AWAY POINTS

- The survey participants were predominantly male, ethnically diverse, and a mix of newcomers and experienced fishers, still a transient population many of whom had not taken part in previous surveys
- One fifth (20%) were first-time visitors to the fishing site where they were interviewed.
- Never wearing a lifejacket when fishing from rocks continues to be a persistent high-risk behaviour
- The cohort had greater self-belief in their capacity to manage the risk of drowning when fishing from rocks

The Rock-based Fisher Safety Team 2020

The Project was again coordinated by personnel from three regional organisations Drowning Prevention Auckland (DPA), Surf Life Saving Northern Region (SLSNR), and Auckland Council (AC).

Key people involved in the promotion of fisher safety from Drowning Prevention Auckland were Harry Aonga, James Lea, Madison Chang, Ieuan Leigh (rock fishing advisor) and Leilani Fuemana. From Surf Life Saving Northern, key contributors included Alan Gibson and Ari Peach. Auckland Council park ranger Stuart Leighton and his staff of park rangers were actively involved in all aspects of leadership and delivery of the programme.



Rock-Based Fishing Project, 2020-2021

Outputs

- Hiring of Rock Fishing Advisor
- E-Learning Rock Fishing resource translated into Korean and Chinese
- 1 x Crab Fishing Workshop
- 1 x Rock Fishing Education workshop at Muriwai beach with Korean community
- 1 x Land-Based Fishing safety talk at Pakiri with Korean community
- Media coverage on Korean TV regarding rock fishing safety
- 20+ presentations completed in relation to land-based fishing safety
- 1 x Charter-Boat Fishing Workshop (rescheduled to a later date)



Crab Fishing Flyer
– Dec 2020



Leilani Fuemana, Martin Geddes and Madison Chang at the Crab fishing workshop, Uretiti Beach - Dec 2020



E-learning resource on Safer Rock Fishing translated into Chinese and Korean



Land-Based Fishing Safety Talk at Pakiri Beach – May 2021

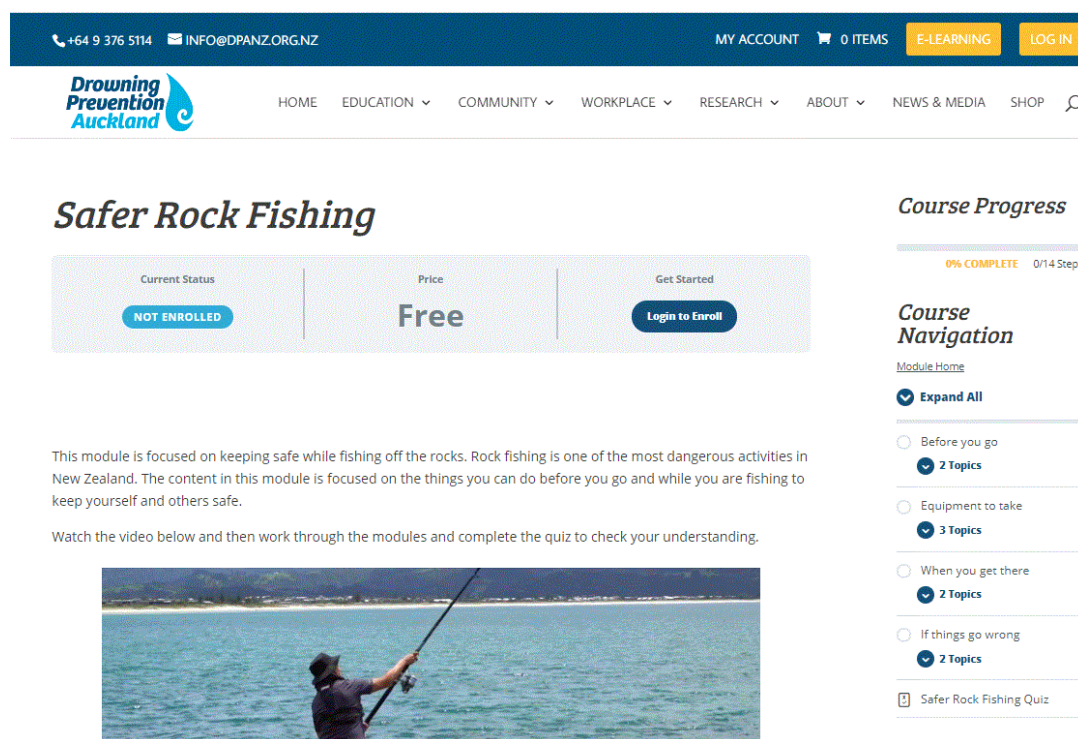


Charter-Boat Fishing Flyer – June

E-learning Platform

By clicking on the eLearning tab in the header bar of DPA's home page (at <https://www.dpanz.org.nz/>) participants can learn quick and easy ways of keeping themselves safe and reducing the risk of drowning when enjoying their recreational activity. Registration to allow access to the eLearning site is free and provides you with access to a range of drowning prevention topics. The screen shot below introduces viewers to the Safer Rock Fishing course on the DPA website at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>.

The course consists of 4 modules (9 topics) that focus on safety requirements to consider prior to going fishing, what equipment is necessary, what to do upon arrival at the fishing site, and what to do in the event of an emergency for yourself or for others. Upon completion of the 4 modules participants are invited to test their knowledge in a series of simple quizzes.



The screenshot displays the Drowning Prevention Auckland website's eLearning platform. The header features contact details (+64 9 376 5114, INFO@DPANZ.ORG.NZ), user links (MY ACCOUNT, 0 ITEMS, E-LEARNING, LOG IN), and a navigation menu (HOME, EDUCATION, COMMUNITY, WORKPLACE, RESEARCH, ABOUT, NEWS & MEDIA, SHOP). The main content area is titled 'Safer Rock Fishing' and includes a status bar with 'Current Status: NOT ENROLLED', 'Price: Free', and 'Get Started: Login to Enroll'. A descriptive paragraph states the module's focus on safety while fishing off the rocks in New Zealand. Below the text is a video thumbnail showing a person fishing. On the right, the 'Course Progress' section indicates '0% COMPLETE' and '0/14 Steps'. The 'Course Navigation' list includes: 'Before you go' (2 Topics), 'Equipment to take' (3 Topics), 'When you get there' (2 Topics), 'If things go wrong' (2 Topics), and 'Safer Rock Fishing Quiz'.

Illustration 1. Screen shot of DPA's *Safer Rock Fishing* programme freely available at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>

RECOMMENDATIONS

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

Auckland Council:

- Retain the services of the safety advisory for a 2021/22 post-Covid 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 evidence-based public rescue equipment (PRE) in the form of angel rings and throw ropes at popular but remote locations,
- Support the trialling of different PRE and the development of national PRE guidelines.

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

- Promote and evaluate the e-Learning module on the DPA website, and add a question to the annual survey,
- Increase lifejacket use in the public domain with strong media messaging,
- Commit resources and personnel to the ongoing work collaboratively with all partners to promote best practice for West Coast fishing safety education beyond 2021.

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

- Adopt and endorse the fishing safety messages promoted by the 2021 West Coast Rock-based Fisher Safety Project,
- Be aware of, and promote participation in, the new e-Learning website, especially in fishing magazines, newspapers, and other online media outlets,
- 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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Project Report – 2020-21

1. OVERVIEW

This 2021 Report provides an overview of the current safety practices and beliefs of Auckland's west coast land-based fishers and a timely opportunity to see whether the years of safety promotion have been effective. Rock-based fishing (a form of land-based fishing) is one of the deadliest recreational pursuits in New Zealand. A 10-year overview conducted by Surf Lifesaving New Zealand from 2010-2020 reported an annual average mortality rate of 3 fatal drowning incidents per annum with 31 fatal incidents (National Beach and Coastal Safety Report 2020, SLSNZ, 2021). Of these, most were male (90%) and the key demographic group were 25-64 year-olds of Asian ethnicity). The Auckland and Waikato regions each accounted for 26% ($n = 8$) of incidents, 22% ($n = 7$) for the South Island, and 26% ($n = 4$) for the rest of the North Island. As was the case nationally, for the Auckland region from 2016-2020, most victims were male (75%) of Asian ethnicity (88%), and none were wearing buoyancy aids at the time of the incident (Drownbase, WSNZ).

The 2020-21 season was atypical of the rock-based fishing season because of the occurrence of the pandemic COVID-19 in March 2020. A level 4 lockdown, imposed on the Auckland region on March 26th, 2020 meant that fishers were not able to travel to the west coast and all high-risk aquatic recreation that may require rescue were forbidden. As a consequence of work-from-home rules all public face-to-face fishing safety promotion via the collaborating organisations was cancelled. A further outbreak of cases in August-October, 2020 also curtailed face-to-face safety promotions. Online learning via the DPA website was still operational throughout the lockdown phases.

Sadly, at the end of the 2021 season, a fatal drowning incident occurred at Piha. (April 20th). A Korean fisher was reported swept off the rocks at the Camel in heavy seas at 5.00am and in the dark. Emergency services were alerted and a search and rescue response was initiated. The fisher was not wearing a lifejacket and, after a prolonged land and sea search, the person was listed as a missing person. A month later (14th May), the *New Zealand Herald* reported that Auckland-based Korean consul and police attaché In Kyong Kim led a group of Korean community leaders in a training session at Muriwai Beach conducted by Drowning Prevention Auckland.

Source: NZ Herald at: <https://www.nzherald.co.nz/nz/missing-korean-piha-fisherman-family-clinging-to-hope-man-still-alive-friend-says/4CC4DW54T2JZAI7S4AOEJSD2GU/>

2. 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. Most recently, in 2020, an online resource has been developed so that fishers can learn safety tips and practices in their own time through computer-based learning modules.

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).

3. Aims and Outcomes of the Project

3.1 AIMS

The aims of this fifteenth 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.

3.2 OUTCOMES

The specific outcomes of this Report are:

1. Ascertain the effect of on-site rock fishing safety promotion during the summer months of 2020-21
2. Report findings on fisher awareness and perceptions of the West Coast Rock-based Fishing Project
3. Report fisher opinions on the value of safety signage and angel ring flotation devices currently located at high-risk west coast fishing locations,
4. Provide information on 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.

4. Fisher Safety Survey

4.1 Survey Administration

The data gathering took place during December 2020 and March 2020 (slightly later than normal practice because of the? pandemic) and included several peak holiday weekdays and weekends. The onsite data gathering took place using a Survey Gizmo e-questionnaire and iPads, first trialled in 2014.

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, but, unlike the previous year, the most popular and frequented sites at Muriwai and Piha were well represented. The sites surveyed included high risk west coast fishing sites at Muriwai (Flat Rock), Piha (including Whites Beach), Bethells (including O’Neill Beach), Anawhata/Whatipu (including Nine Pin Rock and Paratutae) (See Table 1).

Table 1. Survey sites, 2021

Fishing location where interviewed	<i>n</i>	%
Muriwai	88	64%
Bethells beach (including O’Neill Beach, Ihumoana Island, & Raeakiaki Point)	6	4%
Piha (including Camel Rock and Dorsons Ledge, South Piha)	40	29%
Anawhata (including Whatipu, Wonga Wonga Bay, Paratutae)	3	2%
Westhaven (fishing safety workshop)	2	1%
Total	139	100%

4.2 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 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 (PREs) 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. A fourth question asked the fishers had they used an angel ring in an emergency or seen one used.

4.3 Data analysis

Data from the completed questionnaires were downloaded from a Survey Gizmo Word file for statistical analysis using SPSS Version 26.0 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.

Comparisons were made between findings from the current survey (2021) with the previous year's survey (2020) because data gathering processes (electronic data gathering via Survey Gizmo and iPad were compatible). Trend lines using previous surveys from 2006 were not included because of differing data gathering procedures (written questionnaire in 3 different languages). Historical comparison with pre-2018 data should be treated with caution given this methodological limitation.

Appendix 1 - Rock-Fishing-in-Auckland-2021

Date: _____ Time: _____ Location: _____

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

☐ Yes ☐ No

If Yes, do you think the project is: a

☐ Highly successful a

☐ Successful a

☐ Slightly successful a

☐ Not successful a

☐ Don't know a

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

☐ Yes ☐ No

If Yes, how do you know about it? a

☐ Radio a

☐ Television a

☐ Rock-fishing advisors a

☐ Newspapers a

☐ Magazines a

☐ Retail outlets (eg fishing shops, gas stations) a

☐ Other _____ a

3.a Are you? a

☐ Male ☐ Female a

4.a How old are you? a

☐ 15-19 years a

☐ 20-29 years a

☐ 30-44 years a

☐ 45-64 years a

5.a How would you best describe yourself? a

☐ European New Zealander a

☐ Māori a

☐ Pasifika a

☐ Chinese / Taiwanese a

☐ Korean a

☐ Indian a

☐ Other (e.g. African, French, Spanish etc.) a

6.a How long have you lived in New Zealand? a

☐ Less than 1 year a

☐ Between 1-4 years a

☐ Between 5-9 years a

☐ More than 10 years a

☐ All my life a

7.a How often have you fished at this location? a

☐ This my first time a

☐ Between 2-5 times a

☐ Between 6-10 times a

☐ Between 11-20 times a

☐ More than 20 times a

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

☐ For fun and enjoyment a

☐ To feed the family a

Illustration 1 The survey layout in 2021

5. KEY FINDINGS

The results of the 2021 survey are presented in six sections:

5.1 Demographics of Fishers

5.2 Awareness of West Coast Rock-based Fishing Safety Project

5.3 The Installation and Usage of Angel rings

5.4 Fisher Perceptions of Drowning Risk

5.5 Water Safety Behaviours of Fishers

5.6 Changes in Fishers' Knowledge, Attitudes and Behaviours



Illustration 2. Whatipu, remote location, not a lifejacket in sight

5.1 DEMOGRAPHICS OF FISHERS

Demographically, the participants ($N = 139$) were predominantly male (94%), of Asian ethnicity (40%), most were aged 30-64 years (68%), and almost half (41%) had been resident in New Zealand for 10 years or longer (see Table 2).

Table 2. Demographic Characteristics of Fishers, 2021

Demographic Characteristic		<i>n</i>	<i>Valid %</i>	Total
Gender	Male	131	94%	139 (100%)
	Female	8	6%	
Ethnicity	European	53	38%	139 (100%)
	Maori	7	5%	
	Asian	56	40%	
	Pasifika	15	11%	
	Other	8	6%	
Age Group	15-19 years	11	8%	139 (100%)
	20-29 years	20	14%	
	30-44 years	52	37%	
	45-64 years	43	31%	
	65+ years	13	10%	
Length of residency	< 1 year	2	1%	139 (100%)
	1-4 years	21	15%	
	5-9 years	18	13%	
	>10 years	43	31%	
	All my life	55	40%	

Table 3 shows that those who self-identified as of Asian origin ($n = 56$) were predominantly Filipino (46%; $n = 26$), followed by Korean (20%; $n = 11$), Chinese/Taiwanese (18%; $n = 10$), and other Asian ethnicities including Burmese (9%; $n = 5$ and Indian/Afghani (7%; $n = 4$). In comparison with the previous year, this suggests fewer Chinese and more Filipino fishers, a possible reflection on the greater number of surveys completed at Flat Rock, Muriwai. The constantly changing pattern among Asian ethnicities suggests that promoting fisher safety through written language may require multiple translation so use of illustrated messaging is highly recommended.

Table 3. Self-identified Ethnicity of Asian Fishers, 2021

Asian Ethnicity	<i>n</i>	%
Filipino	26	46%
Korean	11	20%
Chinese/Taiwanese	10	18%
Myanmar/Burmese	5	9%
Indian/Afghan	4	7%
Total	56	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 for one fifth (20%) of the fishers it was the first time they had visited the site where surveyed (2020, 24%). Cumulatively, almost one of fishers (46%) reported that they had visited the site less than 5 times (2020, 65%). More than one third of fishers (37%) had visited the site more than twenty times (2020, 24%).

As in previous years, more than half (55%) of the fishers were not likely have visited the site where interviewed more than 10 times, a finding that contradicts the trend for increased experience of the fishing locations having been evident in the findings of the full surveys completed in recent years (2013-2019).

Fun and enjoyment was given as the overwhelming reason for fishing at the site where surveyed (71%). Subsistence fishing to feed the family was reported by one fifth (19%) of fishers.

Table 4. Frequency at Site where Interviewed and Reasons for Fishing, 2021

How often have you fished at this site?	<i>n</i>/<i>%</i>		Cumulative %
First time at site	28	20%	20%
2-5 times	36	26%	46%
6-10 times	12	9%	55%
11-20 times	12	9%	63%
>20 times	51	37%	100.0%
What is the main reason for fishing today?			
Fun and enjoyment	99	71%	139 (100%)
Feed the family	26	19%	
Have a day off from work/home	12	9%	
Be with mates	2	2%	



Illustration 3. Multilingual/visual signs for Angel Ring use in an emergency

5.2 AWARENESS OF WEST COAST ROCK-BASED FISHING SAFETY PROJECT

Fewer than one fifth (17%, $n = 24$) of fishers surveyed in 2021 reported that they had taken part in previous west coast rock-based fishing safety surveys, a lesser proportion than that reported in the previous year (2020, 31%). This proportion is much lower than in previous years and may be a reflection of the reduced role of safety advisors as a consequence of reduce face-to face contact during lockdown conditions.

Table 5 shows that, of the 24 fishers who had taken part in the previous surveys, most considered that the campaign had been very *successful* (58%) or *successful* (33%) with two suggesting it was *not successful*.

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

Did you take part in the previous rock fishing projects?	<i>n</i>	%
Yes	24	17% (2020: 67%)
No	115	83% (2020: 69%)
Total	139	100%
If Yes ($n = 24$), how successful do you think it was?		
Very successful	14	58% (2020: 32%)
Successful	8	33% (2020: 68%)
Not successful	2	8% (2020: 0%)
Total	24	100.0%

Two thirds of fishers (66%, $n = 91$) reported that they were not aware of the current safety promotion. Table 6 shows that, when those who were aware of the 2021 project were asked how they had found out about the project, fishing safety advisors (46%, $n = 22$) 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. 2019, 84%). The reduced frequency of identification of fishing advisory in making fishers aware of the fisher safety project may again be a reflection on the pandemic conditions with reduced face-to face contact at the 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 2021 suggests renewed efforts at safety promotion via these previously well used channels.

Table 6. Are you aware of, and how did you find out about the current (2021) project?

Are you aware of the current (2021) project?			
	<i>n</i>	<i>%</i>	
Yes	48	34%	(2020: 61%)
No	91	66%	(2020: 39%)
Total	139	100%	
If Yes (n = 48), how did you find out about the current project?			
Fishing safety advisors	22	46%	(2020: 90%)
Media	17	35%	(2020: 7%)
Retail Outlets	2	4%	(2020: 0%)
Other sources (e.g. lifeguards, internet)	7	15%	(2020: 3%)
Total	48	100%	

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

Fishers were asked to report on their awareness of public rescue equipment (PREs) on the west coast high risk fishing locations (see survey question 11, Appendix 1).

Table 7 shows that most all fishers (81%) had seen angel rings at their Auckland West Coast fishing sites, a greater proportion than reported in the previous year (2020, 63%).

Table 7. Awareness of the public rescue equipment (PREs), 2021

Is there an angel ring where you fish?	<i>n</i>	%
Yes	113	81%
No	26	19%
Have you read the angel ring instructions?		
Yes	78	56%
No	61	44%
Do you think you could use one in an emergency?*		
Yes	124	89%
No	15	11%
Have you used or seen one used in an emergency?*		
Yes	33	24%
No	106	76%

When asked if they had read the associated signage and instructions on how to use the rescue equipment in an emergency, most fishers (56%; $n = 78$) reported that they had read the instructions (2020, 37%). As was the case in the previous year even though many fishers (44%) reported not having read the instructions, most (90%) thought that they could use the angel rings in an emergency (2020, 90%). One tenth (11%) thought that they did not think they could use an angel ring in an emergency (2020, 10%) which is a cause for concern given the remoteness of many of the fishing sites. One very salient finding indicative of the value of public rescue equipment related to the observed use of the angel rings where one quarter (24%; $n = 33$) had seen them used. If this finding is accurate, it confirms the importance of PREs reported elsewhere and suggests current


efforts by DPA and SLSNZ (podcast available at: <https://www.dpanz.org.nz/news-media/>) to extend their availability in other high risk and remote areas is a worthwhile investment.




Illustration 4. Angel rings at west coast rock-based fishing sites

WHAT TO DO IN AN EMERGENCY


如何處理緊急情況 | 응급 상황에서는 어떻게 해야 하나? | O LE MEA E FAI I LE TAIM O FAALAGELAGI FAATOKESI? | KOE ME A ME O LE TAIM O FAALAGELAGI FAATOKESI?




If someone falls in the water
如果有人掉進水中
만약 누가 바다에 빠진다면
A pa'u se isi i le sami
Ka too ha taha ki tahi pe vailahi



Pick up an Angel-Ring or flotation device
請拾起救生圈或任何浮物
구명 장비를 잡으세요
Piki loa i luga le pa'u e faaopeopea ai (Mama agelu)
To'o 'ae Angel Ring pe me'a kakau pe ko ha me'a pe 'e lava tokoni ke te testee'aki



Throw Angel-Ring to the person in the water
將救生圈 向遇溺者
구명 장비를 바다에 빠진 사람에게 던지세요
Togi atu le pa'u e faaopeopea ai i le tagata ua pa'u i le sami
O li kihe tokotaha 'oku 'i he tahi



Dial 111 for police and report your location and emergency. Send someone to find help (a lifeguard)
撥打電話 111 向警方求助- 報告肇事位置及緊急情況. 派人尋求協助 (如救生員)
111에 전화해서 지금 있는 장소와 응급 상황을 알립니다. 응급 구조원들에게 도움을 요청합니다
Vili le telefoni numera 111 mo Laoleo - lipoti i ai le faalavelave faatasi ma le nofoaga o loo tupu ai.
Faatonu se tagata e sa'ili mai se fesoasoani - (se tasi o le Aulavea'i).
Telefoni ki he "111" kihe Polisi fakahaa ki ai 'ae feitu'u 'oku ke 'iai pea moe fakatu'utamaki 'oku hoko
Pea fakau ha taha ke kumi tokoni kiha Lifeguard pe ha taha pe 'e ala tokoni




Illustration 5. Multilingual signage on how to use the angel rings

5.4 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, 2021

Do you think that-	Strongly agree/ Agree		Unsure		Strongly disagree/ Disagree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1. Getting swept off the rocks is likely to result in my drowning	99	71.2%	15	10.8%	25	18.0%
2. Rock fishing is no more risky than other water activities	65	46.8%	7	5.0%	67	48.2%
3. Drowning is a constant threat to my life when rock fishing	85	61.2%	11	7.9%	43	30.9%
4. I am not concerned about the risks of rock fishing	52	37.3%	5	3.6%	82	59.0%
5. Other rock fishers are at greater risk of drowning than me	92	66.2%	18	12.9%	29	20.9%
6. I am a strong swimmer compared with most other people	96	69.0%	11	7.9%	32	23.0%
7. I avoid fishing in bad conditions to reduce drowning risk	133	95.8%	2	1.4%	4	2.8%
8. Always wearing a life jacket makes fishing a lot safer	120	86.4%	7	5.0%	12	8.6%
9. Turning my back to the waves when rock fishing is very dangerous	131	94.2%	3	2.1%	5	3.6%
10. My local knowledge of this site means I'm unlikely to get caught out	103	74.1%	20	36.1%	16	11.5%
11. My experience of the sea will keep me safe when rock fishing	118	84.9%	10	7.2%	11	7.9%
12. My swimming ability means I can get myself out of trouble	113	81.3%	16	11.5%	11	7.9%

Statements 1-3 (Question 12) in Table 9 relate to fishers' perceptions of **the severity of the risk of drowning** when fishing from rocks (see Appendix 1 – survey questionnaire). In 2021, most fishers (71%) agreed that getting swept off rocks was likely to result in drowning, and most (61%) considered drowning a constant risk when fishing from rocks yet almost half (47%) thought rock fishing was no more risky than other water activities. Table 9 compares the responses of fishers' perception of risk from the current survey 2021 with the previous year. More fishers in 2021 appeared to have a realistic perception of the severity of the risk of drowning when compared with 2020 responses. More fishers believed that getting swept off rocks would result in their drowning and drowning was a constant threat to their life when fishing, yet more perceived rock fishing as no more risky than other water activities.

Table 9. Comparison of beliefs of the severity of drowning risk, 2020 and 2021

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
1. Getting swept off the rocks is likely to result in my drowning	2021	71.2%	10.8%	18.0%
	2020	30%	55%	15%
2. Rock fishing is no more risky than other water activities	2021	46.8%	5.0%	48.2%
	2020	34%	26%	39%
3. Drowning is a constant threat to my life when rock fishing	2021	61.2%	7.9%	30.9%
	2020	56%	30%	14%

The second measure of fishers' perception of the appraisal of drowning risk – personal **vulnerability to the risk** was determined from statements 4-6 in Question 12 and reported in Table 10.

Table 10. Comparison of beliefs in vulnerability to drowning risk, 2020 and 2021

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
4. I am not concerned about the risks of rock fishing	2021	37.3%	3.6%	59.0%
	2020	25%	8%	67%
5. Other rock fishers are at greater risk of drowning than me	2021	66.2%	12.9%	20.9%
	2020	41%	36%	23%
6. I am a strong swimmer compared with most other people	2021	69.0%	7.9%	23.0%
	2020	19%	40%	27%

Most fishers (59%) disagreed that they were not concerned about the risk of drowning (2020, 67%), and two thirds (66%) thought that other fishers were more vulnerable to the risk of drowning than themselves (2020, 41%). More fishers (69%) in 2021 considered that they were strong swimmers compared with other people (2020, 19%). Fewer fishers (23%) in 2020 disagreed that they were strong swimmers when compared with others (2019, 58%). Reasons for this self-reported estimate of better swimming ability are hard to explain but it is likely to reflect male overestimation of ability and underestimation of risk previously reported (Moran, 2008, 2011, 2017).

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). Most fishers taking part in the 2021 survey responded positively to all three statements of the efficacy of preventive actions to reduce drowning risk (Table 11). Almost all fishers in 2021 avoided fishing in bad weather (96%), agreed that wearing a lifejacket when fishing from rocks made it a lot safer (86%) and avoided turning their back to the waves (94%). Comparable figures for the previous year were 90%, 69%, and 94% respectively which suggests that the current cohort of fishers were more aware of the efficacy of preventive actions in making their fishing safer, especially with regard to the value of wearing a lifejacket.

Table 11. Comparison of fisher beliefs in efficacy of preventive actions, 2020-21

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
7. I avoid fishing in bad conditions to reduce drowning risk	2021	95.8%	1.4%	2.8%
	2020	90%	7%	3%
8. Always wearing a lifejacket makes fishing a lot safer	2021	86.4%	5.0%	8.6%
	2020	69%	31%	0%
9. Turning my back to the waves when fishing is very dangerous	2021	94.2%	2.1%	3.6%
	2020	95%	2%	3%

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.

Table 12. Comparison of fisher self-efficacy to cope with risk, 2020 and 2021

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
10. My local knowledge of this site means I'm unlikely to get caught out	2021	74.1%	36.1%	11.5%
	2020	40%	24%	19%
11. My experience of the sea will keep me safe when rock fishing	2021	84.9%	7.2%	7.9%
	2020	43%	36%	21%
12. My swimming ability means I can get myself out of trouble	2021	81.3%	11.5%	7.9%
	2020	37%	45%	18%

The 2021 results suggest that more participants than in the previous year's survey considered themselves capable of looking after themselves with more fishers believing that their experience of the sea (2021, 85%; 2021, 43%) and that their local knowledge (2020, 74%; 2021, 40%) would keep them safe. It is hard to reconcile this positivism with the reality that more than half (55%) of the fishers had visited the site where fishing less

than 10 times surveyed (and 20% reported that it was their first visit to the site!!) (See Table 4 for detail). Rather it suggests that, as in previous years, fishers generally overestimated their capacity to cope with the demands of the high-risk environments that they fish in. This is also likely to be the case in the final section of this question relating to swimming competency. In 2021, most fishers (81%) thought that their swimming competency would get them out of trouble, a far greater proportion than reported in the previous year (2020, 37%).



Illustration 6. Essential equipment highlighted in the online Fisher safety programme available at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>

5.5 WATER SAFETY BEHAVIOURS OF FISHERS

Fishers were asked to report their previous water safety behaviours (see survey question 13, 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, 2021

When rock fishing, do you -		Never		Sometimes		Often/Always	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1.	Wear a lifejacket or other flotation device	47	33.8%	36	25.9%	56	40.3%
2.	Check weather/water conditions first	1	0.8%	5	3.6 %	133	95.7%
3.	Drink alcohol when you are fishing	111	80.0%	22	15.8%	6	4.2%
4.	Wear gumboots or waders	77	55.4%	32	23.0%	30	21.6%
5.	Turn your back to the sea when fishing	101	72.7%	27	19.4%	11	7.9%
6.	Take a cell phone in case of emergencies	4	2.8%	4	2.8%	131	94.2%
7.	Go down rocks to retrieve snagged line	80	57.6%	48	34.5%	11	7.9%

Table 13 shows a variation of safety behaviours among the 2021 cohort of rock-based fishers. On the positive side, almost all fishers reported *often/always* checking the weather and water conditions before going fishing (96%), taking a cell phone in case of emergencies (94%) and *never* drinking alcohol when fishing (80%). Corresponding proportions in the previous year 2020 were 93%, 87%, and 95% respectively. The most important difference in safety behaviour was in the reported wearing of lifejackets with more fishers in 2021 reporting *always/often* wearing a lifejacket (2021, 40%; 2020, 20%) but, sadly, more fishers reporting *never* wearing lifejacket (2021, 34%; 2020, 20%). Substantially fewer reported *never* going down the rocks to retrieve a snagged line (2021,

58%; 2020, 27%) and more fishers reported that they *never* had turned their backs to the sea when fishing (2021, 73%; 2020, 29%). More fishers reported *never* wearing gumboots or waders (2021, 55%; 2020, 42%) but a minority of fishers in both years reported that they *often/always* engage in this risky practice (2021, 22%; 2020, 18%).

As has been reported in previous years, the high-risk behaviours seem remarkably resistant to change. Whether it is because fishers are unaware of, or underestimate the risk, or whether they consider the risk worth taking in terms of their estimation of their personal competency to deal with that risk remains unknown. Further promotion of the dangers associated with these behaviours is advised. Both are highlighted in the *Rock Fisher Safety* modules on the recently launched E-learning platform. Future survey analysis may inform us of whether fishers have accessed advice on these issues of persistent unsafe practice, and subsequently changed their behaviours.



Illustration 7. Example of a remote site at Paratutae Rock, Whatipu, not far from Manukau Heads

5.6 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 14, Appendix 1).

Table 14. Comparison of Self-Reported Changes in Fishers' Safety Knowledge, Attitudes and Behaviours, 2020 and 2021

Do you think that -	Year	Agree		Disagree		Don't know		Total	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Your rock fishing safety knowledge has improved?	2021	129	92.8%	0	0.0	10	7.2%	139	100.0
	2020	40	64.5%	5	8.1%	17	27.4%	62	100.0
Your rock fishing safety attitude has improved?	2021	131	92.4%	2	1.4%	6	4.3%	139	100.0
	2020	46	74.2%	3	4.8%	13	21.0	62	100.0
Your rock fishing safety behaviour has improved?	2021	133	95.7%	1	0.7%	5	3.6%	139	100.0
	2020	41	66.1%	4	6.5%	17	27.4%	62	100.0
Your mates' rock fishing behaviour has improved?	2021	124	89.2%	3	2.2%	12	8.6%	139	100.0
	2020	36	58.1%	5	8.1%	21	33.9%	62	100.0
Other rock fishers' behaviour has improved?	2021	119	85.6%	8	5.7%	12	8.6%	139	100.0
	2020	39	62.9%	6	7.8%	17	27.9%	62	100.0

Table 14 shows that almost all fishers (93%) considered that their safety knowledge had improved in recent years. Most fishers thought that their attitudes towards fisher safety

had improved (92%) and a similarly high proportion (96%) 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. More fishers believed their knowledge had improved (2021, 93%; 2020, 65%), more believed their attitudes towards safety had improved (2021, 92% 2020, 74%) and considerably fewer believing that their safety behaviour had improved (2021, 96%; 2019, 66%).

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 14 also shows that a majority of fishers (89%) thought that the safety behaviour of their mates had improved (2020, 58%). When asked about the behaviour of other rock-based fishers, most fishers (86%) in the 2021 survey thought they had observed better safety behaviours of other fishers, a lesser proportion than that reported in the previous year (2020, 63%).



Illustration 8. Extreme weather and sea conditions at Muriwai doesn't deter this fisher

6. CONCLUSIONS

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

- In 2021, most fishers were male (94%), 68% were aged between 30-64 years of age and of Asian descent (40%) although Filipino fishers were the dominant Asian ethnicity. Most (71%) had lived in New Zealand for more than 10 years, 16% had lived in New Zealand for less than 4 years, 13% between 5-9 years.
- In 2021, an increased proportion of fishers reported greater familiarity with the location at which they fished (i.e. more frequent visits). This is reflected in their greater perception of their experience helping to keep them safe (see Table 12, p. 19).
- It would appear that fishers in the 2021 survey had less awareness of previous or the current Rock-based Fisher Safety programme. Given the transience of the rock fishing community and the remoteness of fishing sites (that has characterised all previous surveys) perhaps this is not surprising. Furthermore, the likelihood of less awareness was likely exacerbated by the pandemic environment of 2020-21, Further ways of disseminating safety knowledge (such as the recent eLearning platform modules) as well as the onsite advisory service maybe another way of getting the messages to this elusive community.
- It would appear that the 2021 cohort of fishers had a less realistic awareness of the risks associated with their fishing, had a lesser understanding of the need for lifejackets when rock-based fishing, and a greater sense of self-reported knowledge of the sea and local conditions. Underestimation of risk and overestimation of competency to cope with that risk remain a critical concern among this high-risk group
- The greatest concern is still the lack of lifejacket use with 34% *never* wearing one, and only 40% wearing one *often* or *always*. Other high-risk behaviours such as going down the rocks to retrieve snagged lines, wearing gumboots or waders, and turning your back to the sea are all still practised by many fishers (see Table 13, p. 20).

7. SUMMARY OF KEY SAFETY PROMOTIONS, 2021

Outputs

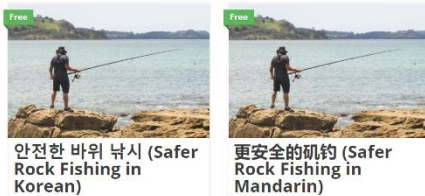
- Hiring of Rock Fishing Advisor
- E-Learning Rock Fishing resource translated into Korean and Chinese
- 1 x Crab Fishing Workshop
- 1 x Rock Fishing Education workshop at Muriwai beach with Korean community
- 1 x Land-Based Fishing safety talk at Pakiri with Korean community
- Media coverage on Korean TV regarding rock fishing safety
- 20+ presentations completed in relation to land-based fishing safety
- 1 x Charter-Boat Fishing Workshop (rescheduled to a later date)



Crab Fishing Flyer
– Dec 2020



Leilani Fuemana, Martin Geddes and Madison Chang at the Crab fishing workshop, Uretiti Beach - Dec 2020



E-learning resource on Safer Rock Fishing translated into Chinese and Korean



Land-Based Fishing Safety Talk at Pakiri Beach – May 2021



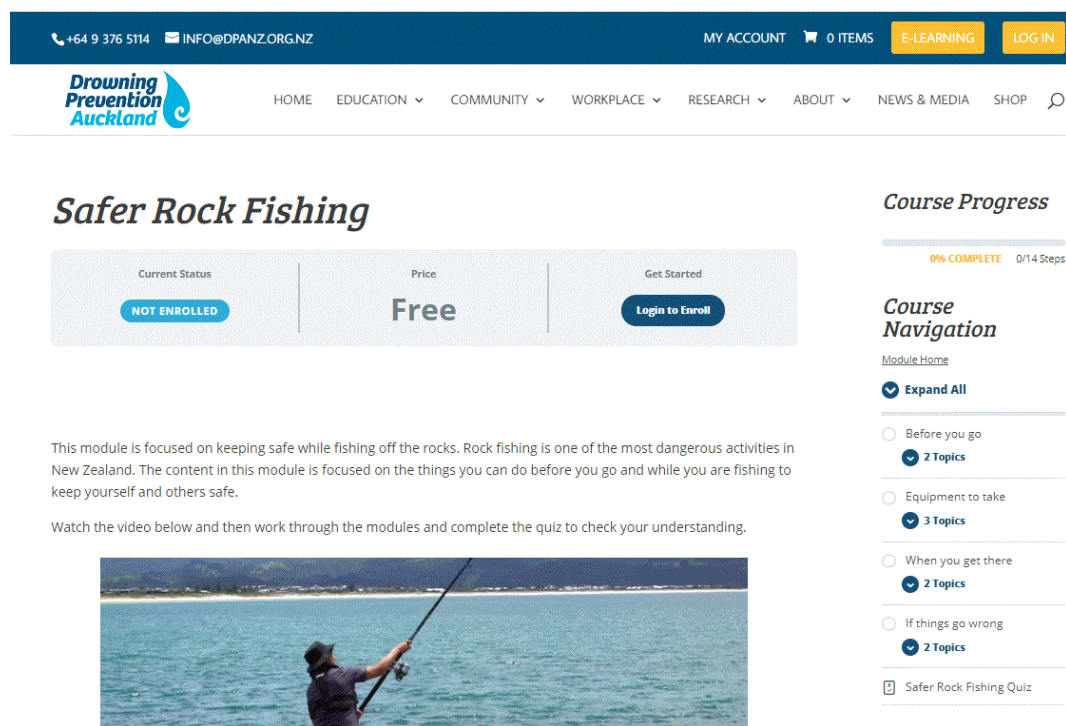
Charter-Boat Fishing Flyer – June

e-Learning Module 2020

By clicking on the e-learning tab in the header bar of DPA's home page (at <https://www.dpanz.org.nz/>), participants can learn quick and easy ways of keeping themselves safe and reducing the risk of drowning when enjoying their recreational activity. Registration to allow access to the eLearning site is free and provides you with access to a range of drowning prevention topics.

Introduced in March 2020, the screen shot below introduces viewers to the Safer Rock Fishing course on the DPA website at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>.

The course consists of 4 modules (9 topics) that focus on safety requirements to consider prior to going fishing, what equipment is necessary, what to do upon arrival at the fishing site, and what to do in the event of an emergency for yourself or for others. Upon completion of the 4 modules participants are invited to test their knowledge in a series of simple quizzes.



The screenshot displays the DPA website's header with contact details (+64 9 376 5114, INFO@DPANZ.ORG.NZ) and navigation links (HOME, EDUCATION, COMMUNITY, WORKPLACE, RESEARCH, ABOUT, NEWS & MEDIA, SHOP). The main content area features the 'Safer Rock Fishing' course title, a 'Current Status' section with a 'NOT ENROLLED' button, a 'Price' section showing 'Free', and a 'Get Started' section with a 'Login to Enroll' button. A description states: 'This module is focused on keeping safe while fishing off the rocks. Rock fishing is one of the most dangerous activities in New Zealand. The content in this module is focused on the things you can do before you go and while you are fishing to keep yourself and others safe.' Below this is a video player showing a person fishing. To the right, the 'Course Progress' section shows '0% COMPLETE' and '0/14 Steps'. The 'Course Navigation' section lists topics: 'Before you go' (2 Topics), 'Equipment to take' (3 Topics), 'When you get there' (2 Topics), and 'If things go wrong' (2 Topics). A checkbox for 'Safer Rock Fishing Quiz' is also present.

Illustration 10. Screen shot of DPA's *Safer Rock Fishing* programme freely available at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>

8. RECOMMENDATIONS

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

Auckland Council:

- Retain the services of the safety advisory for a 2021/22 post-Covid 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 evidence-based public rescue equipment (PRE) in the form of angel rings and throw ropes at popular but remote locations,
- Support the trialling of different PRE and the development of national PRE guidelines.

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

- Promote and evaluate the e-Learning module on the DPA website, and add a question to the annual survey,
- Increase lifejacket use in the public domain with strong media messaging,
- Commit resources and personnel to the ongoing work collaboratively with all partners to promote best practice for West Coast fishing safety education beyond 2021.

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

- Adopt and endorse the fishing safety messages promoted by the 2021 West Coast Rock-based Fisher Safety Project,
- Be aware of, and promote participation in, the new e-Learning website, especially in fishing magazines, newspapers, and other online media outlets,
- 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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Appendix 1 Rock-Fishing in Auckland: 2021

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 this location?

- ☐ 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 - Rock fishing is no more risky than other water activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 –Drowning is a constant threat to my life when rock fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 - I am not concerned about the risks of rock fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 - Other fishers are at greater risk of drowning than me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 - I am a strong swimmer compared with most other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 – I avoid fishing in bad conditions to reduce the risk of drowning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 - Always wearing a lifejacket makes rock fishing a lot safer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 - Turning my back to the waves when rock-fishing is very dangerous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 - My local knowledge of this site means I'm unlikely to get caught out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 - My experience of the sea will keep me safe when rock fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 - My swimming ability means I can get myself out of trouble	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. When rock fishing, do you -

	Never	Sometimes	Often	Always
1 Wear a lifejacket/buoyancy aid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Check weather forecast beforehand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Drink alcohol when fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Wear gumboots or waders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Turn your back on the sea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Take a cell phone in case of emergencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Go down the rocks to retrieve snagged line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 My practice of rock fishing safety has improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 My attitudes towards rock fishing safety have improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 My rock fishing mates seem more safety conscious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Other rock fishers around me seem more safety conscious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 2



Rock Fishing Safety Report

2020/ 2021

Surf Lifesaving Northern Region
3 Solent Street, Mechanics Bay, Auckland 1010
PO Box 2195, Shortland Street, Auckland 1140
T 09 303 0663
www.lifesaving.org.nz

Summary.

For the 2020/21 season SLSNR once again partnered with DPA and Auckland City Council to continue provide an education and safety presence on the West Coast of Auckland. This season saw two Rock Fishing Advisors employed. Rock Fishing Advisors made visits to rock fishing locations contact with 128 rock fishers at South Piha, Karekare, Bethells, O'Neill's (Bethells), Muriwai and Whatipu.

Data Collection.

The two Rock Fishing advisors used cars to drive to locations along Auckland's West Coast to Survey rock fishers. The majority of the surveys were done on the rocks while the participants were fishing. Drones were used to establish where rock fishers were before setting out to do surveys. Drones were a valuable tool to save time and increase safety as the walks along the rocks to speak to rock fishers were often over challenging terrain. The drones also were able to communicate safety messages to rock fishers in situations where it was too dangerous to proceed.

This season the survey was simplified and done on Survey Monkey as less detailed data was required. Using Survey Monkey proved to be a reliable format use for the surveys. The questions that were asked were: Location, age, sex, ethnicity, wearing a lifejacket, how experienced were they at rock fishing.

Findings of note

South Piha, Muriwai, Bethells and Whatipu were the busiest location for Rock Fishers. Of those rock fishers contacted in the survey, only 21% were wearing lifejackets (this is almost the same as the 2019/2020 season at 20%). This shows that failure to wear lifejacket is still a major issue within the Rock Fishing community. A recommendation for next season is that Rock Fishing Advisors hand out Lifejackets. This was trialled over the 2019/2020 season where 10 lifejackets were given out. This seems a very effective way to increase the safety of the rock fishers that are encountered while surveys are being done.

The ethnicity of each the rock fishers that were surveyed was noted. The most prevalent ethnicity was Chinese/Taiwanese at 42. The three next most common ethnicities were Filipino (15), Maori (15), NZ European (13). The gender spread was overwhelmingly male, with only six of the participants identifying as female. The average age of the rock fishers was 35 years old.

Future recommendations

One of the challenges with the Rock Fishing advisor program is the travel for the advisors to the different locations. A more efficient model which has been discussed with Drowning Prevention Auckland and Auckland Council Ranger Stuart Leighton is to imbed the Rock Fishing Advisor role into the Surf Lifesaving Northern Region Paid Lifeguard Services which operate at three of the four most popular west coast rock fishing locations (Muriwai, Piha, Bethells). This would mean providing extra resourcing to the Paid Lifeguard patrols which run at these locations December, Jan and February to fulfil the rock fishing advisor function (including advising of risks and taking surveys).

This new model will improve the effectiveness of the rock fishing advisor role as rather than ad hoc visits, there will be a fulltime presence of lifeguards to engage with rock fishers from December to February. Lifeguards will require special training to fulfil this function and this training can be done at the Paid Lifeguard service induction at the end of November.