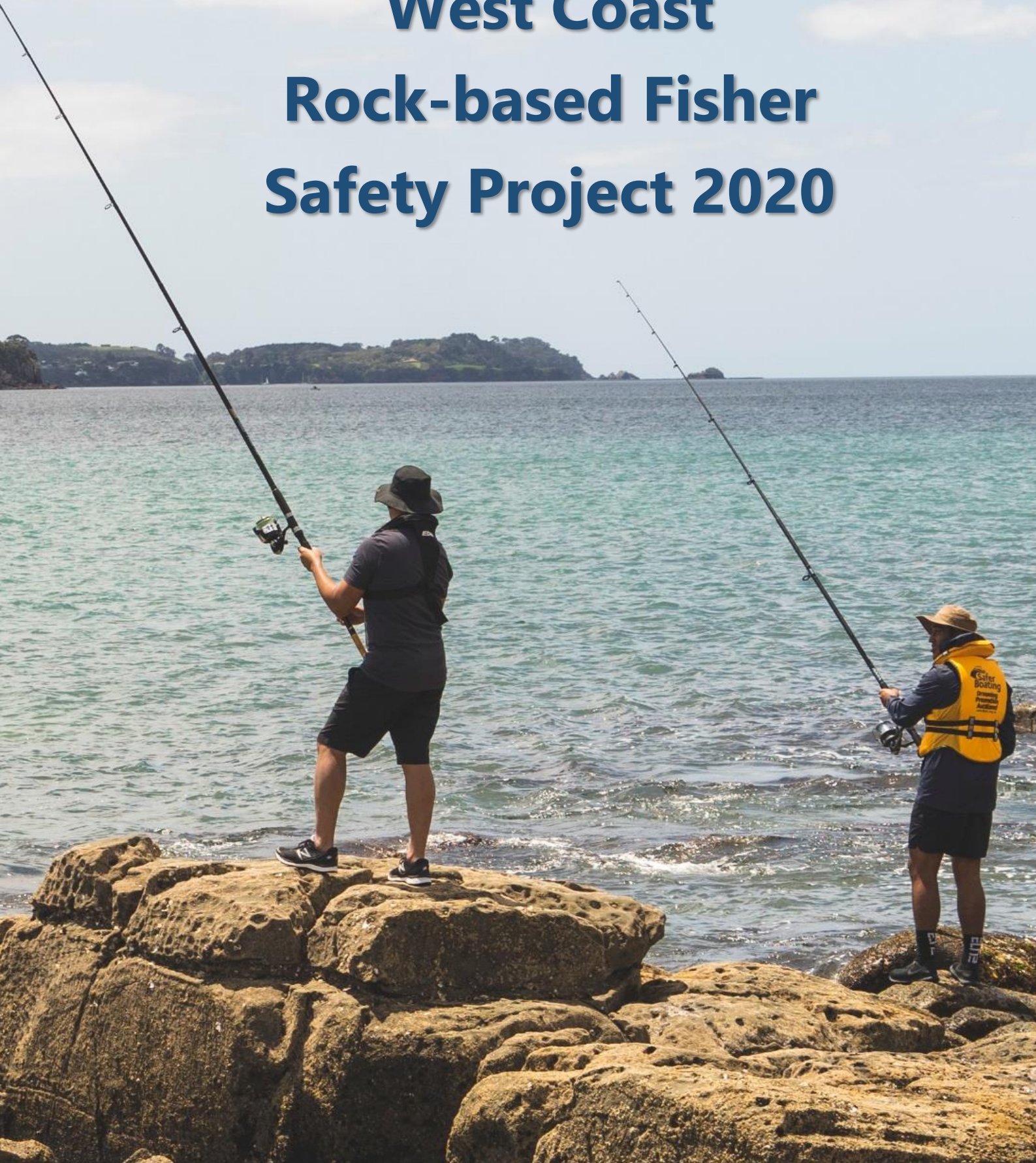


West Coast Rock-based Fisher Safety Project 2020



Preface and Acknowledgements

This report is an evaluation of the 2020 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 15th 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 Alan Gibson, Ari Peach, Benjamin Julian, Murray Stapleton, Laurice Sciarone, and Liam Parkins of Surf Life Saving Northern Region; Harry Aonga, James Lea, and Leilani Fuemana 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.

Report prepared by:

Dr Kevin Moran, Faculty of Education, The University of Auckland, Auckland, New Zealand.

Recommended reference:

Moran, K. (2020, August). *West Coast Rock-based Fisher Safety Project, 2020*. Report to Auckland Council, Surf Life Saving Northern Region and Drowning Prevention Auckland.

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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:
<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. From 2015-2019, 23 fatal incidents were reported among land-based fishers. Of these, most were males (87%, $n = 20$) and three quarters (74%, $n = 17$) occurred at rocky foreshores (52%, $n = 12$), and surf beaches (22%, $n = 5$) (WSNZ Drownbase, 2020). Fishers of Asian ethnicity were the most frequent victims (39%, $n = 9$) followed by NZ Europeans (35%, $n = 6$). Buoyancy aids were evident in only one fatal incident (4%) and alcohol consumption was also reported in the same incident (4%). The Auckland region accounted for 35% ($n = 6$) of incidents, 22% ($n = 5$) for the Waikato region, 33% ($n = 7$) for the South Island, and 17% ($n = 4$) for the rest of the North Island. Most incidents involved single fatalities with bystanders (43%, $n = 43$) or single fatalities who were fishing alone (26%, $n = 6$).

1. Background

This is the fifteenth year of the *West Coast Rock-based Fisher Safety Project*, a collaborative intervention by the Auckland Council, WaterSafe Auckland Inc. (WAI, operating as Drowning Prevention Auckland DPA), 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 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 in the 2019-20 season,
- 3) To make recommendations for future rock fishing safety promotion based on the information obtained in the survey conducted during the 2019-20 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 October 2019 and February 2020. A total sample of 62 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 (82%) and most (76%) were aged 20-44 years of age.
- The respondents were primarily Asian peoples (58%), of Chinese (40%) and Korean (18%) descent.
- Almost half (45%) had lived in New Zealand for more than 10 years, 18% had lived in New Zealand for less than 4 years, 37% between 5-9 years
- Familiarity with the site was slightly less than the previous years, with one quarter (24%) having visited the site where interviewed >20 times. One quarter (24%) were first time visitors to the site, 41% had visited between 2-5 times.
- The reason most fishers gave for fishing on the day of interview was fun and enjoyment (87%), 7% to feed the family, 7% to have a day out from work/home

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

- 31% of respondents reported that they were aware of previous west coast fisher safety projects (2018, 67%).
- Of these, most fishers (68%) thought that the campaign had been successful, one third (32%) thought it very successful.
- Most fishers (61%) were aware of the current 2020 Project (2019, 67%).
- Of these, most (90%) identified the fishing advisors and media (7%) as their source of information.

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

- Most fishers (63%) reported there being on-site angel rings where they fished
- Most fishers (63%) had not read the instructions on how to use the angel rings (2019, 63%).
- Most fishers (90%) thought they could use the angel rings in an emergency (2019, 63%).
- Very few (8%) had used, or seen one used in an emergency

4.4. Perceptions of Drowning Risk

- Fewer fishers (30%) agreed that getting swept off rocks was likely to result in their drowning (2019, 58% agreed).
- Most fishers (56%) agreed that drowning was a constant threat when fishing from rocks on the west coast of Auckland (2019, 100% agreed).
- Almost one half (41%) agreed that other fishers were at greater risk than themselves but many were unsure (40%) if they were strong swimmers compared with others (2019, 17% and 25% respectively).
- Most fishers (67%) agreed that wearing a lifejacket made rock-based fishing safer (2019, 100% agreed).

- Almost all fishers (90%) avoided fishing in bad weather (2019, 100% agreed).
- Almost all fishers (95%) thought that turning their backs to the sea was very dangerous (2019, 100% agreed).
- Many fishers (36%) agreed that their swimming proficiency would get them out of trouble (2019, 17% agreed).
- Almost half (43%) thought that their local knowledge of the site would keep them out of trouble (2019, 79% agreed).
- More than half (57%) thought that their experience of the sea would keep them safe when fishing from rocks (2019, 96% agreed).

4.5. Water Safety Behaviours of Fishers

- 38% reported *often/always* wearing a lifejacket/buoyancy aid (2019, 50%).
- Fewer fishers (20%) reported *never* wearing any lifejacket/buoyancy aid (2019, 21%).
- Most fishers (95%) reported *never* consuming alcohol when fishing (2019, 96%).
- Most (58%) reported *sometimes/often* wearing gumboots/waders (2019, 54%),
- Most (71%) reported *sometimes* going down rocks to retrieve snagged lines (2019, 96%)

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

- Two-thirds (65%) considered that their safety knowledge had improved in the past year (2019, 96% agreed).
- Three-quarters (74%) considered that their safety attitudes had improved (2019, 96% agreed).
- Two thirds (66%) thought that their safety behaviour when fishing had improved (2019, 92% agreed).
- Most fishers (58%) thought that the safety behaviour of their mates had improved (2019, 63% agreed).
- Most fishers (62%) considered that the safety behaviour of other fishers (48%) had improved (2019, 75% agreed).

TAKE AWAY POINTS

- The survey was confined to high risk sites, the sample was 82% male, predominantly of Asian ethnicity (58%) and 20-44 years of age (76%).
- One quarter (24%) were first-time visitors to the fishing site where they were interviewed.
- Fewer fishers reported often/always wearing a lifejacket, especially relevant to the remoteness of the sites where the survey took place (2020, 38%; 2019, 50%)
- Fewer fishers were aware of the past and the current Rock Fishing Safety Project.

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, and Leilani Fuemana. From Surf Life Saving Northern, key contributors included Alan Gibson, Ari Peach, Benjamin Julian, Murray Stapleton, Laurice Sciarone, and Liam Parkin. 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.



Illustration 1. Members of the Project Team on a training workshop at Piha Beach with drone

As was the case in 2019, this Report consists of a detailed analysis of the annual survey of fishers completed onsite and as a part of a Fisher Safety workshop conducted by DPA at the start of the 2019-2020 season. The Report includes copy of the Operational Report of SLSNR staff engaged as Fishing Safety Advisors during the season (see Appendix 2). It also introduces the latest educational technology utilising eLearning via the DPA website (see eLearning Module, pp. 26-27).

Drowning Prevention Auckland – Rock-based Fishing Project 2020

Education Outputs - Examples



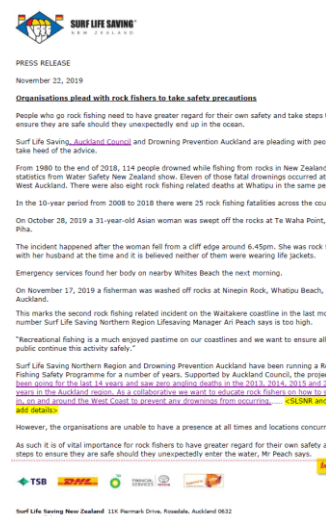
Rock Fishing Safety Launch Flyer – December 2019



Rock Fishing Safety – Bus Signage Promotion



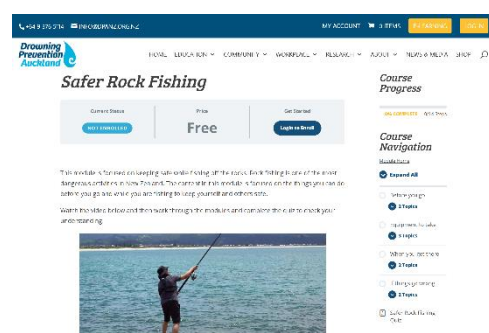
Land-Based Fishing Safety - Fishing Charter 2019



Rock Fishing Press Release - November 2019



Crab Fishing Workshop Flyer – November 2019



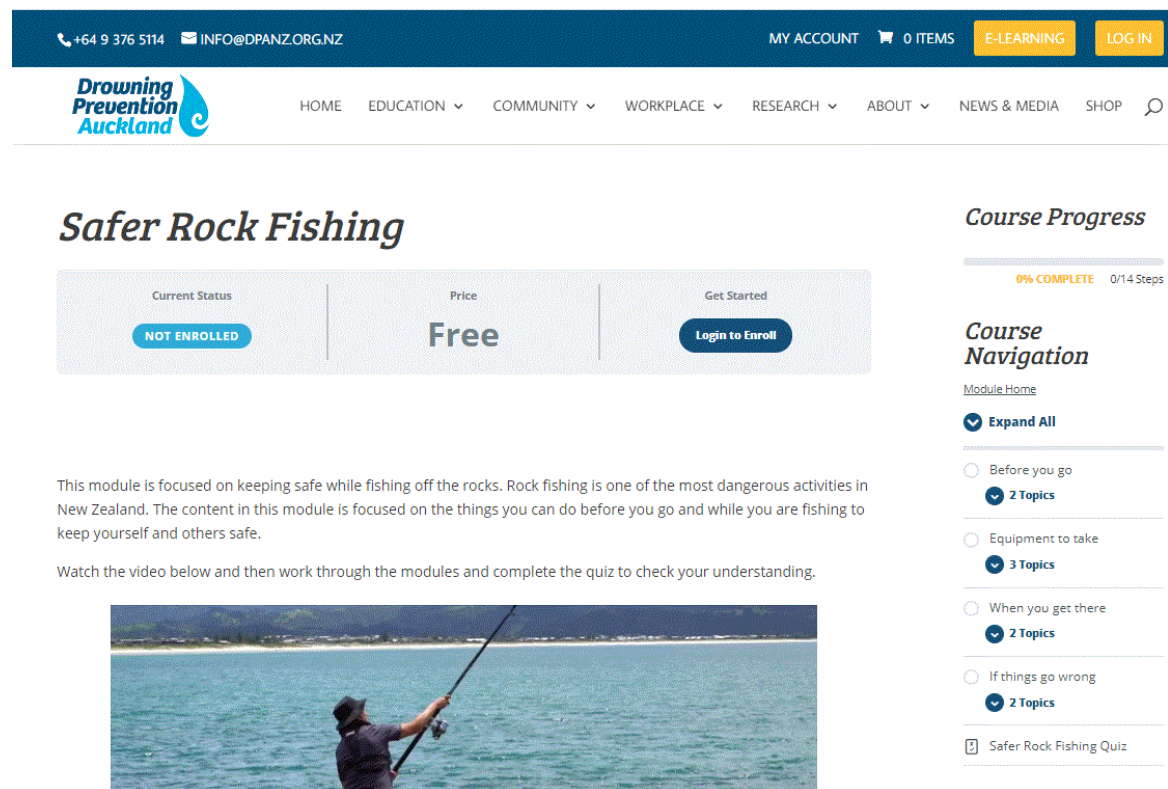
eLearning Module – Rock Fishing

eLearning Module 2020

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.

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 eLearning interface for the 'Safer Rock Fishing' course. The header includes contact details (+64 9 376 5114, INFO@DPANZ.ORG.NZ) and navigation links (MY ACCOUNT, 0 ITEMS, E-LEARNING, LOG IN). The main content area features the 'Safer Rock Fishing' title, a progress bar at 0% complete, and a 'NOT ENROLLED' status. The price is listed as 'Free', and a 'Login to Enroll' button is present. 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, a video player shows a person fishing. The right sidebar, titled 'Course Progress', shows a list of topics: 'Before you go' (2 Topics), 'Equipment to take' (3 Topics), 'When you get there' (2 Topics), and 'If things go wrong' (2 Topics). The sidebar also includes a 'Module Home' link and an 'Expand All' button.

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 2020/21 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

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

- Promote and evaluate the eLearning 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 2020.
- Focus on representative sampling when data gathering so as to include all popular west coast fishing sites.
- Seek fisher advice on best type of PRE for west coast fishing sites.

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

- Adopt and endorse the fishing safety messages promoted by the 2020 West Coast Rock-based Fisher Safety Project,
- Be aware of, and promote participation in, the new eLearning 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

1. Background

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).

This 2020 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 2018-19, an Operational Report from SLSN has also been included.



Assisting and Rescuing Others

Safer Rock Fishing > If things go wrong > Assisting and Rescuing Others

IN PROGRESS

The 4Rs are a good way to remember safe ways of rescuing others without putting your life at risk.

Check out this video then click the boxes below for more explanation.

Download

1080pHD



Illustration 1. The new eLearning platform on DPA's website provides free and easy access to simple lessons on specific activities such as what to do in an emergency. Available at:

<https://www.dpanz.org.nz/e-learning/>

2. Purpose and Outcomes of the Project

2.1 Purpose

The purposes 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.

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 2019-20
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.

3. Fisher Safety Survey

1.1 Overview

The data gathering took place during October 2019 and February 2020 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. For the first time in the annual data gathering process, respondents included participants enrolled in a fishing safety workshop conducted at the DPA headquarters in Westhaven.

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, a notable omission being one of the most accessible and popular high risk sites at Flat rock, Muriwai. The sites surveyed included high risk west coast fishing sites at Piha (including Whites Beach), Bethells (including O'Neill Beach, Ihumoana Island, and Raeakiaki Point), Karekare, and Whatipu (including Nine Pin Rock and Paratutae) (See Table 1).

Table 1. Survey sites, 2020

Fishing location where interviewed	<i>n</i>	%
Muriwai	0	0%
Bethells beach (including O'Neill Beach, Ihumoana Island, & Raeakiaki Point)	7	11.3%
Karekare	11	17.7%
Piha Beach (Camel Rock and Dorsons Ledge, South Piha)	24	38.7%
Whatipu (including Wonga Wonga Bay, Paratutae)	5	8.1%
Westhaven (fishing safety workshop)	15	24.2%
Total	62	100%

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 downloaded from a Survey Gizmo Word file for statistical analysis using SPSS Version 25.0 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 (2020) with the previous year's survey (2019) 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.



Illustration 2. "Should I stay or should I go?" Fishers study the rough conditions at Piha. Onshore winds, 3m swells, slippery rock conditions, nobody else around – let's hope they made the right choice

4. KEY FINDINGS

The results of the 2020 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 3. Whatipu, remote location, not a lifejacket in sight

4.1 DEMOGRAPHICS OF FISHERS

Demographically, the participants ($N = 62$) were predominantly male (82%), predominantly of Asian ethnicity (58%), most were aged 20-44 years (75%), and almost half (46%) had been resident in New Zealand for 10 years or longer (see Table 2).

Table 2. Demographic Characteristics of Fishers, 2020

Demographic Characteristic		<i>n</i>	<i>Valid %</i>	Total
Gender	Male	51	82%	62 (100%)
	Female	11	18%	
Ethnicity	European	15	24%	62 (100%)
	Asian	36	58%	
	Pasifika	2	3%	
	Other	9	15%	
Age Group	15-19 years	2	3%	62 (100%)
	20-29 years	10	16%	
	30-44 years	36	59%	
	45-64 years	13	21%	
	65+ years	0	0%	
Length of residency	< 1 year	0	0%	62 (100%)
	1-4 years	11	18%	
	5-9 years	23	37%	
	>10 years	14	23%	
	All my life	14	23%	

Table 3 shows that those who self-identified as of Asian origin ($n = 42$) were predominantly Chinese/Taiwanese (60%; $n = 25$), Korean (26%; $n = 11$), and other Asian ethnicities including Filipino, Japanese, and Vietnamese (14%; $n = 6$). The variation 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, 2020

Asian Ethnicity	<i>n</i>	%
Chinese/Taiwanese	25	59.5%
Korean	11	26.2%
Indian	0	0.0%
Other Asian (Filipino, Japanese, Vietnamese)	6	14.3%
Total	42	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 quarter (24%) of the fishers it was the first time they had visited the site where surveyed (2019, 8%). Cumulatively, almost two thirds of fishers (65%) reported that they had visited the site less than 5 times (2019, 21%). Almost one quarter of fishers (24%) had visited the site more than twenty times.

In comparison with the previous year, fewer fishers were likely to be regular visitors to the site where interviewed, a finding that contradicts the trend for increased experience of the fishing locations has been evident in the findings of the full surveys completed in recent years (2013-2019). This inconsistent finding is hard to explain. It may be a reflection of the sites at which fishers were surveyed or it may reflect the lack of surveying at one of the most accessible and popular sites, that of Flat Rock, Muriwai. It is recommended that more comprehensive coverage of all sites will give a more accurate picture of familiarity with the fishing locale thereby reflecting possible local knowledge of risks and hazards.

Fun and enjoyment was given as the overwhelming reason for fishing at the site where surveyed (87%) whilst fishing to feed the family or to have a day off work or away from home was not rated highly (7% and 6% respectively).

Table 4. Frequency at Site where Interviewed and Reasons for Fishing, 2020

How often have you fished at this site?	n/%		Cumulative %
First time at site	15	24%	24.2%
2-5 times	25	40%	64.5%
6-10 times	5	8%	72.6%
11-20 times	2	3%	75.8%
>20 times	15	24%	100.0%
What is the main reason for fishing today?			
Fun and enjoyment	54	87%	100%
Feed the family	4	7%	100%
Have a day off from work/home	4	6%	100%
Be with mates	0	0%	100%

WHAT TO DO IN AN EMERGENCY
 如何處理緊急情況 | 응급 상황에 처한 어질게 해야 하나? | O LE MEA E FAI I LE TAMU O FAALAVELAVE TAMUASESI | KOE MEA E FAI I LE TAMU O FAALAVELAVE TAMUASESI



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 집으세요
 Piki loa i luga le pa'u e faapeopea ai (Mama agelu)
 To'o 'ae Angel Ring pe mo'a kakau pe ko ha mo'a pe 'e lava tokoni ke te teotee'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 faapeopea 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 구조원 등에게 도움을 요청합니다
 Vili le telefoni numera 111 mo Laoleo - lipoti i ai le faalavelave faatasi ma le nofoaga o loo tupu ai.
 Fiafonu se tagata e sa'i mai se fesoasoani - (se tasi o le Au-Laoleo)
 Telefoni ki he "111" kihe Polisi fakaha ki ai 'ae faitu'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 4. Multilingual/visual signs for Angel ring use in an emergency

4.2 AWARENESS OF WEST COAST ROCK-BASED FISHING SAFETY PROJECT

One third (31%, $n = 19$) of fishers surveyed in 2020 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 (2019, 67%). This proportion is much lower 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 2020. It may be that the fishers at other locations not surveyed in 2020 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 lesser fisher motivation to comply with surveyor requests to take part as well as greater familiarity with the surveys as suggested by rock fishing advisors in their onsite conversations with fishers (See SLSN Operational Report – Appendix 2).

Table 5 shows that, of the 19 fishers who had taken part in the previous surveys, most considered that the campaign had been *successful* (68%) or *highly successful* (32%) with none suggesting it was *unsuccessful* or *only slightly 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	19	31%	(2019: 67%)
No	43	69%	(2019: 33%)
Total	62	100%	
If Yes ($n = 19$), how successful do you think it was?			
Highly successful	6	32%	(2019: 67%)
Successful	13	68%	(2019: 33%)
Slightly successful	0	0%	(2019: 0%)
Total	19	100%	

Most fishers (61%, $n = 19$) reported that they were aware of the current safety promotion. Table 6 shows that, when those who were aware of the 2020 project were asked how they had found out about the project, fishing safety advisors (90%, $n = 27$) 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 high frequency of identification of fishing advisory in making fishers aware of the fisher safety project may again be a reflection on the surveying of more remote sites and the improved coverage of these 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 2020 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 (2020) project?

Are you aware of the current (2020) project?	<i>n</i>	%	
Yes	30	61%	(2019: 79%)
No	19	39%	(2019: 21%)
Nil response	13	-	
Total	62	100.0%	
If Yes ($n = 30$), how did you find out about the current project?			
Fishing safety advisors	27	90.0%	(2019: 84.2%)
Media	2	6.6%	(2019: 10.5%)
Other sources (e.g. lifeguards, internet)	1	3.4%	(2019: 5.3%)
Total	30	100.0%	

4.3 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 (63%) had seen angel rings at the Auckland West Coast fishing sites, a lesser proportion than reported in the previous year (2019, 92%).

Table 7. Awareness of the public rescue equipment (PREs), 2020

Is there an angel ring where you fish?	<i>n</i>	%
Yes	39	63%
No	23	37%
Have you read the angel ring instructions?		
Yes	23	37%
No	39	63%
Do you think you could use one in an emergency?*		
Yes	54	90.0%
No	6	10.0%
Have you used or seen one used in an emergency?*		
Yes	4	8.2%
No	45	91.8%

*Missing data not included

When asked if they had read the associated signage and instructions on how to use the rescue equipment in an emergency, 37% ($n = 9$) of fishers reported that they had read the instructions (2019, 38%). As was the case in the previous year even though many fishers (67%) reported not having read the instructions, most (90%) thought that they could use the angel rings in an emergency (2019, 63%).

One tenth (10%) thought that they did not think they could use an angel ring in an emergency (2019, 38%). Given the isolation of most of the fishing locations on the west coast of Auckland where the survey was undertaken in 2020, it is interesting to note that the fishing advisor report from their onsite conversations with fishers that they "feel much safer and

acknowledged knowing that help is there – even in very remote locations”. (See SLSN report Appendix 2)



Illustration 5. Angel rings at west coast rock-based fishing sites



Illustration 6. Angel rings practice throws for distance and accuracy

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, 2020

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	18	29.5%	34	55.7%	9	14.8%
2. Rock fishing is no more risky than other water activities	21	34.4%	16	26.2%	24	39.3%
3. Drowning is a constant threat to my life when rock fishing	34	55.7%	18	29.5%	9	14.8%
4. I am not concerned about the risks of rock fishing	15	24.5%	5	8.2%	41	67.2%
5. Others rock fishers are at greater risk of drowning than me	25	41.0%	22	36.1%	14	22.9%
6. I am a strong swimmer compared with most other people	20	19.4%	25	40.3%	17	27.3%
7. I avoid fishing in bad conditions to reduce drowning risk	56	90.3%	4	6.5%	2	3.2%
8. Always wearing a life jacket makes fishing a lot safer	42	68.9%	19	31.1%	0	0.0%
9. Turning my back to the waves when rock fishing is very dangerous	59	95.2%	1	1.6%	2	3.2%
10. My local knowledge of this site means I'm unlikely to get caught out	26	42.6%	22	36.1%	13	21.3%
11. My experience of the sea will keep me safe when rock fishing	25	40.3%	15	24.2%	12	19.4%
12. My swimming ability means I can get myself out of trouble	23	37.1%	28	45.2%	11	17.7%

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 2020, less than one third of fishers (30%) agreed that getting swept off rocks was likely to

result in drowning, and one third (34%) rock fishing was no more risky than other water activities although more than half (56%) considered drowning a constant risk when fishing from rocks. Table 9 compares the responses of fishers' perception of risk from the current survey 2020 with the previous year. Fewer fishers in 2020 appeared to have a realistic perception of the severity of the risk of drowning when compared with 2019 responses. Fewer believed that getting swept off rocks would result in their drowning, fewer regarded the risk of drowning as a constant threat, and fewer perceived rock fishing as more risky than other water activities.

Table 9. Comparison of beliefs of the severity of drowning risk, 2020 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	2020	30%	55%	15%
	2019	58%	38%	4%
2. Rock fishing is no more risky than other water activities	2020	34%	26%	39%
	2019	21%	0%	79%
3. Drowning is a constant threat to my life when rock fishing	2020	56%	30%	14%
	2019	100%	0%	0%

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 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
4. I am not concerned about the risks of rock fishing	2020	25%	8%	67%
	2019	17%	0%	83%
5. Others rock fishers are at greater risk of drowning than me	2020	41%	36%	23%
	2019	17%	42%	42%
6. I am a strong swimmer compared with most other people	2020	19%	40%	27%
	2019	17%	25%	58%

Two thirds of fishers (67%) disagreed that they were not concerned about the risk of drowning (2019, 83%), and more (41%) thought that other fishers were more vulnerable to the risk of drowning than themselves (2019, 17%). A similar small proportion of fishers (19%) considered that they were strong swimmers compared with other people (2019, 17%). Fewer fishers (27%) in 2020 disagreed that they were strong swimmers when compared with others (2019, 58%).

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 2020 survey responded positively to all three statements of the efficacy of preventive actions to reduce drowning risk (Table 11). Fishers in 2020 avoided fishing in bad weather (90%), agreed that wearing a lifejacket when fishing from rocks made it a lot safer (69%) and avoided turning their back to the waves (95%). Comparable figures for the previous year were 100%, 100%, and 100% respectively which suggests that the current cohort of fishers were less 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 and 2019

Do you think that-		Strongly agree/ Agree	Unsure	Strongly disagree/ Disagree
7. I avoid fishing in bad conditions to reduce drowning risk	2020	90%	7%	3%
	2019	100%	0%	0%
8. Always wearing a lifejacket makes fishing a lot safer	2020	69%	31%	0%
	2019	100%	0%	0%
9. Turning my back to the waves when fishing is very dangerous	2020	95%	2%	3%
	2019	100%	0%	0%

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 2020 results suggest that fewer participants than in the previous year's survey considered themselves capable of looking after themselves with fewer believing that their experience of the sea (2020, 40%; 2019, 96%) and that their local knowledge (2020, 43%; 2019, 79%) would keep them safe. It is likely that these response reflect the fact that more fishers reported that this was their first time fishing at the location where surveyed (Table 4 - 65% had visited the site less than 5 times). However, more fishers (37%) thought that their swimming ability would get them out of trouble (2020, 37%; 2019, 17%).

Table 12. Comparison of fisher self-efficacy to cope with risk, 2020 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	2020	40%	24%	19%
	2019	96%	4%	0%
11. My local knowledge of this site means I'm unlikely to get caught out	2020	43%	36%	21%
	2019	79%	13%	8%
12. My swimming ability means I can get myself out of trouble	2020	37%	45%	18%
	2019	17%	21%	63%



Illustration 7. Essential equipment highlighted in the online Fisher safety programme available at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>

4.5 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, 2020

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	12	20%	26	43%	23	38%
2. Check weather/water conditions first	1	2%	3	5%	57	93%
3. Drink alcohol when you are fishing	59	95%	3	5%	0	0%
4. Wear gumboots or waders	26	42%	25	40%	11	18%
5. Turn your back to the sea when fishing	18	29%	43	69%	1	2%
6. Take a cell phone in case of emergencies	2	3%	6	10%	54	87%
7. Go down rocks to retrieve snagged line	17	27%	34	55%	11	18%

Table 13 shows a variation of safety behaviours among the 2020 cohort of rock-based fishers. On the positive side, almost all fishers *often/always* checking the weather and water conditions before going fishing (93%), taking a cell phone in case of emergencies (87%) and *never* drinking alcohol when fishing (95%). Corresponding proportions in the previous year 2019 were 88%, 92%, and 95% respectively. The most important difference in safety behaviour was in the reported wearing of lifejackets with considerably fewer fishers in 2020 reporting *always/often* wearing a lifejacket (2020, 38%; 2019, 50%) but more fishers reporting

sometimes wearing lifejacket (2020, 43%; 2019, 29%). Fewer reported *never* going down the rocks to retrieve a snagged line (2020, 27%; 2019, 63%) but more fishers reported that they *never* had turned their backs to the sea when fishing (2020, 29%; 2019, 4%). A similar proportion of fishers reported never wearing gumboots or waders (2020, 42%; 2019, 46%) but more reported that they *often/always* engage in this risky practice (2020, 18%; 2019, 4%)

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 8. Lifeguard intervention even in extremely hazardous situations such as Muriwai's Flat Rock isn't enough to deter everyone.

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 14, Appendix 1).

Table 14. Comparison of Self-Reported Changes in Fishers' Safety Knowledge, Attitudes and Behaviours, 2019 and 2020

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?	2020	40	64.5%	5	8.1%	17	27.4%	62	100.0
	2019	23	95.8	1	4.2	0	0%	24	100.0
Your rock fishing safety attitude has improved?	2020	46	74.2%	3	4.8%	13	21.0	62	100.0
	2019	23	95.8	1	4.2	0	0%	24	100.0
Your rock fishing safety behaviour has improved?	2020	41	66.1%	4	6.5%	17	27.4%	62	100.0
	2019	22	91.7	1	4.2	2	8.3	24	100.0
Your mates' rock fishing behaviour has improved?	2020	36	58.1%	5	8.1%	21	33.9%	62	100.0
	2019	15	62.5	1	4.2	8	33.3	24	100.0
Other rock fishers' behaviour has improved?	2020	39	62.9%	6	7.8%	17	27.9%	62	100.0
	2019	18	75.0	1	4.2	5	20.8	24	100.0

Table 14 shows that almost two thirds of fishers (65%) considered that their safety knowledge had improved in recent years, a small proportion (8%) thought that it had not improved. Most

fishers (74%) thought that their attitudes towards fisher safety had improved and two thirds (66%) 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 not improved to some extent with: more thinking their knowledge had improved (2020, 65%; 2019, 96%), fewer believing their attitudes towards safety had improved (2020, 74% 2019, 96%) and considerably fewer believing that their safety behaviour had improved (2020, 66%; 2019, 92%).

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 shows that a majority of fishers (58%) thought that the safety behaviour of their mates had improved (2019, 63%). When asked about the behaviour of other rock-based fishers, most fishers (63%) in the 2020 survey thought they had observed better safety behaviours of other fishers, a lesser proportion than that reported in the previous year (2019, 75%).



Illustration 9. Extreme weather and sea conditions at Muriwai with heavy wet weather gear evident but little flotation in sight

5 CONCLUSIONS

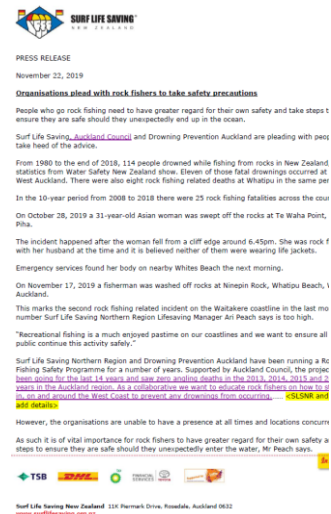
On the basis of the above findings, several key points are worthy of concluding emphasis. They include:

- In 2020, most fishers were male (82%), aged between 20-45 years of age and of Asian ethnicity (58%). Unlike the previous year's sample, more of the 2020 cohort were of recent residency (<9 years residency - 59% compared with 21% in 2019). This may reflect the greater number of sites surveyed in 2020 and affirm the suggestion that the remote sites surveyed in 2019 might not have been representative of the rock-based fishing population on Auckland's west coast.
- In 2020, the fishers reported lesser familiarity with the location at which they fished (ie less frequent visits). This is reflected in their lower perception of their experience helping to keep them safe (see Table 12, p. 19).
- It would appear that fishers in the 2020 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. 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 2020 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 lesser level of self-reported knowledge of the sea and local conditions.
- The greatest concern is still the lack of lifejacket use with 20% *never* wearing one, 43% using a lifejacket *sometimes* and only 38% wearing one *often* or *always*. While it is encouraging to see that alcohol use when fishing off rocks on the west coast is almost non-existent (95% *never* drink alcohol), 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 a majority of fishers (see Table 13, p. 20).

6. SUMMARY OF KEY SAFETY PROMOTIONS, 2020



Rock Fishing Safety Launch Flyer – December 2019



Rock Fishing Press Release - November 2019



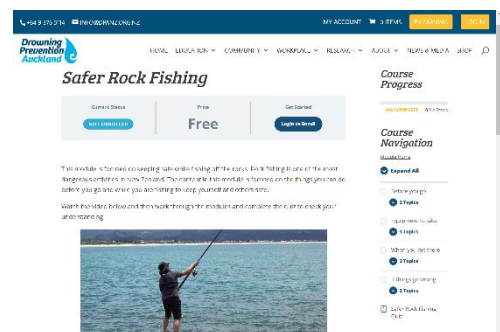
Rock Fishing Safety – Bus Signage



Crab Fishing Workshop Flyer – November 2019



Land-Based Fishing Safety - Fishing Charter 2019



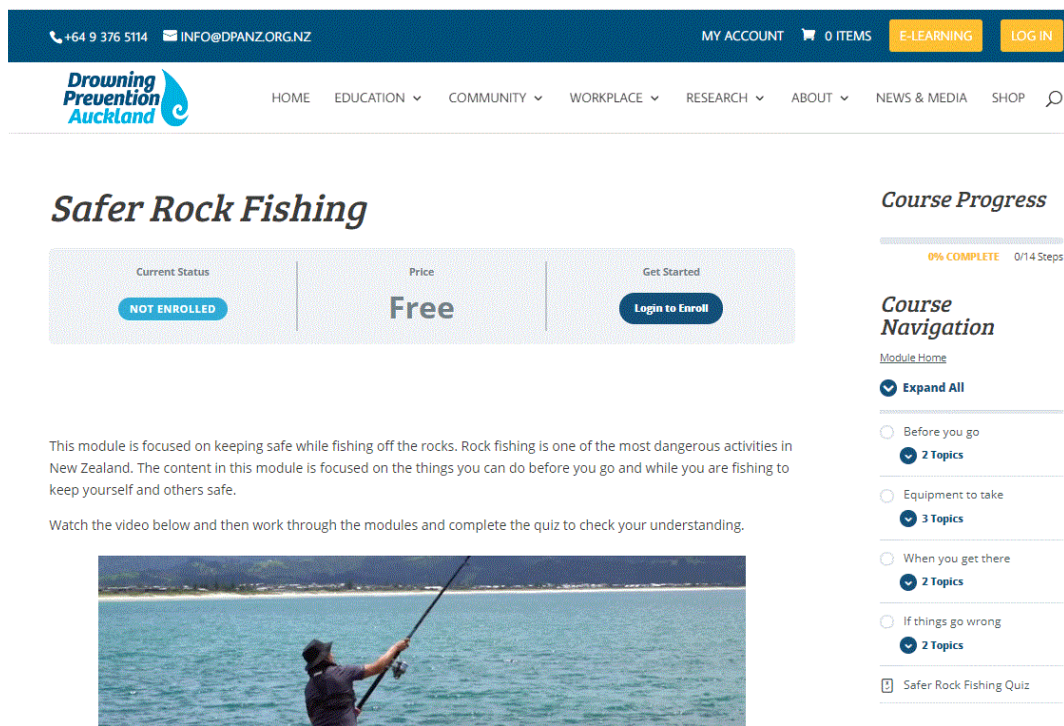
eLearning Module – Rock Fishing

eLearning Module 2020

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.

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 eLearning interface. The header features 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 is titled 'Safer Rock Fishing' and shows the user's current status as 'NOT ENROLLED', the price as 'Free', and 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. Watch the video below and then work through the modules and complete the quiz to check your understanding.' Below the text is a video player 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 10. Screen shot of DPA's *Safer Rock Fishing* programme freely available at: <https://www.dpanz.org.nz/courses/safer-rock-fishing/>

Sample eLearning Messages and Quiz



SEEK ADVICE

READ SAFETY SIGNS



TYPES OF LIFEJACKET



CHECK PHONE RECEPTION



Safer Rock Fishing Quiz

Safer Rock Fishing > Safer Rock Fishing Quiz

This short quiz will test your understanding of the content covered in the Safer Rock Fishing topics.

You will need a 50% pass to continue. You can re-take this quiz as many times as required.

What should you do to prepare yourself for rock fishing?

Select all answers that apply from the list below.

- ☒ Avoid packing alcohol and drugs which may affect your ability to make good decisions.
- ☒ Wear appropriate footwear and clothing, including a suitable lifejacket.
- ☒ Pack enough food and water and put your cellphone in a waterproof bag to take with you.
- ☒ Learn and practice the skills you need to safely enjoy rock fishing.

Check

7. RECOMMENDATIONS

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

Auckland Council:

- Retain the services of the safety advisory for a 2020/21 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

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

- Promote and evaluate the eLearning 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 2020.
- Focus on representative sampling when data gathering so as to include all popular west coast fishing sites.
- Seek fisher advice on best type of PRE for west coast fishing sites.

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

- Adopt and endorse the fishing safety messages promoted by the 2020 West Coast Rock-based Fisher Safety Project,
- Be aware of, and promote participation in, the new eLearning 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: 2020

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

6. How would you best describe yourself?

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

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?

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

2019 / 2020

Rock Fishing Education Program 2020 Surf Life Saving Report

Summary

For the 2019/20 summer, SLSNR once again collaborated with DPA and Auckland City Council to provide an education and safety presence on the West Coast of Auckland with three dedicated Rock Fishing Advisors. The Advisors made 248 visits to 21 different rock fishing locations and had contact with 289 rock fishers. An exciting change this summer was the ability for Rock Fishing Advisors to give away 10 lifejackets. Only 34% of Rock Fishers contacted were wearing a lifejacket.

Pre-Season Training

This seasons SLSNR held an induction day where all members of the delivery team and program partners met at Piha for a pre-season briefing. During this session DPA provided Auckland Council Rangers and SLSNR Advisors with training on how to use Angel Rings and the survey system and was an opportunity provide familiarisation and basic training on UAV operations to all parties.

New Innovations

UAVs – Drones

This season as part of our commitment to provide the best and safest service we trailed the use of Unmanned Aerial Vehicles (UAVs), better known as drones, to patrol coastal locations. The UAV provided Rock Fishing Advisors with a tool that allowed them to communicate through a speaker with to Rock Fishers and safely establish the number of Rock Fishers at hard to access locations. In total, the drone completed 54 patrols covering 63km of coastline. All flights were also logged on video providing extra sources of data and records of the coastline. SLSNR is now working with Massey University School of aviation to develop a larger UAV program to continue to support rock fishing and other vital coastal safety work.

Angel Rings

A key learning of past seasons has been the importance of Angel Rings to rock fishers. Often these are the first line of defense for Rock Fishers and rely on fellow rock fishers to throw them. Our advisors have been working to ensure rock fishers are familiar with these angel rings. Advisors have also been working with Auckland Council Rangers to place new angel rings around the coastline in locations that are frequented by rock fishers.

Location Report

Location	# Rock Fishermen	# of visits	# of Lifejackets	# of surveys
Piha	77	105	41	14
Muriwai	10	16	4	2
Bethells	38	44	17	5
Karekare	38	53	9	5
Whatipu	119	28	43	16

Rockman's Comments

Over the past few years it's been awesome watching the fishing community adapt and change for a safer approach to rock fishing. Seeing people change their personal habits and take on a more safe approach to an already dangerous enough sport/hobby shows the positive difference a little bit of education can make. From

Overall's and Gumboots to appropriate life-jackets and boat shoes – with continuous visits to the popular spots across the west coast you learn a lot about the people that spend their time fishing there and how they can swap their dangerous habits for safer ones. The Rock Fishing Community say they feel much safer and acknowledged knowing that help is there – even in very remote locations.

Future Proposals

The 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 2020/21 season:

- Explore with other regional councils the expansion of coastal fishing education. This would include the expansion of the program to target crab pot fishers.
- Expanded the use of UAVs along to coastline to monitor and advise Rock Fishers
- Recruit three fulltime advisors to increase coverages and frequency of visits.
- Consider expanding the duration of the Rock Fishing Advisor role over the summer period